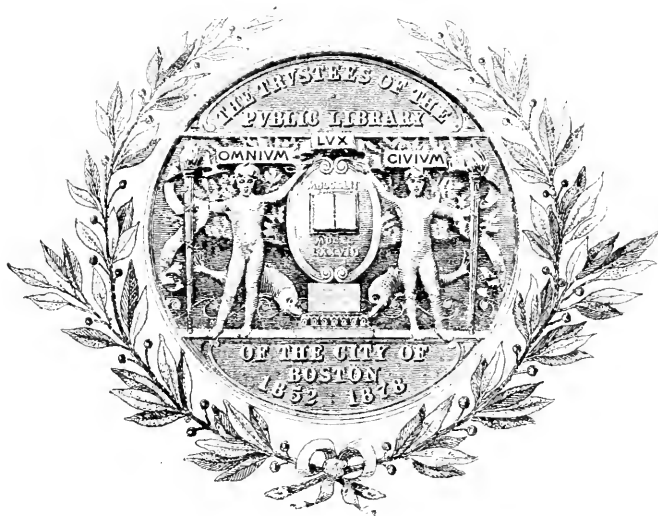


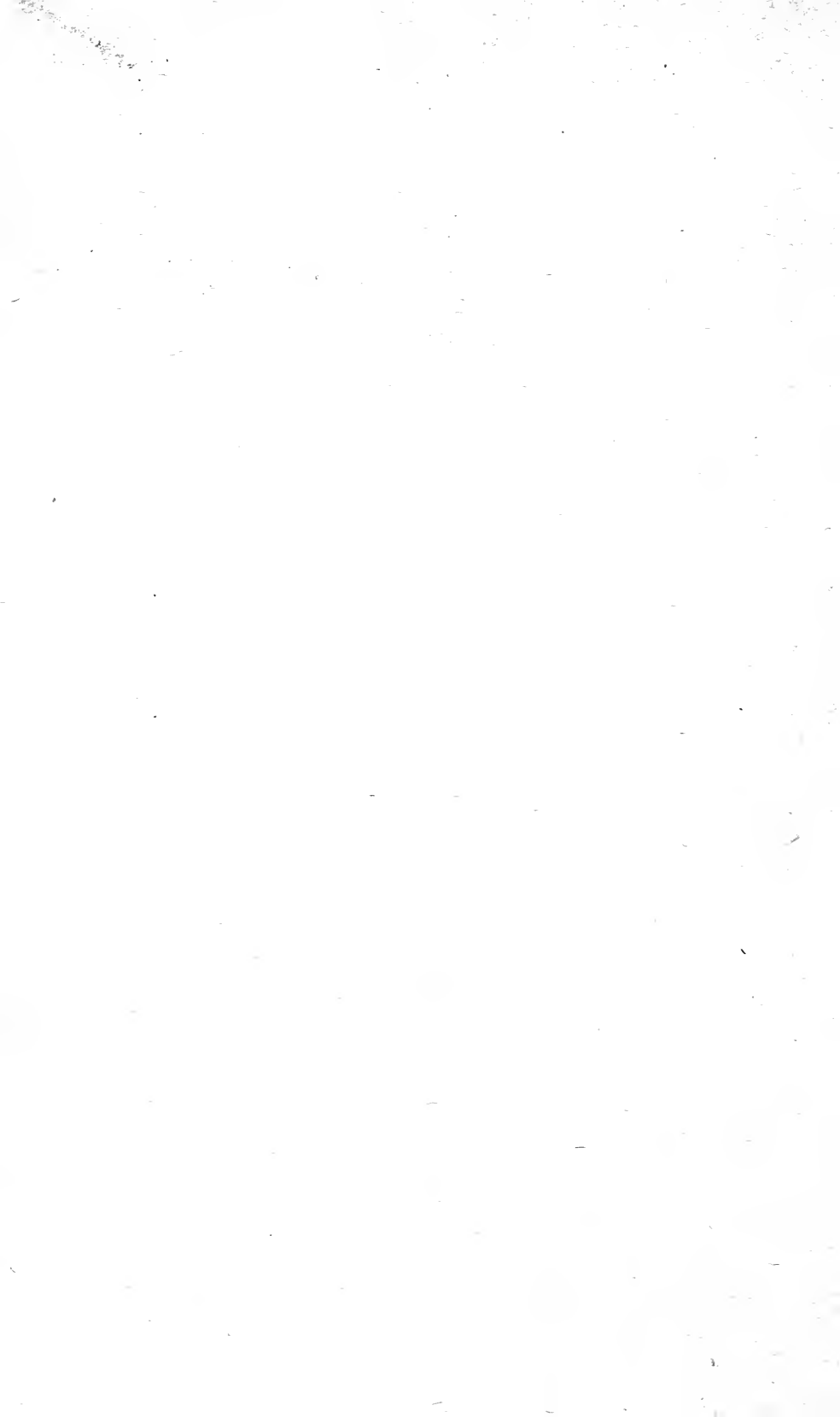
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A THOUSAND YEARS HENCE.

A THOUSAND YEARS HENCE.

BEING PERSONAL EXPERIENCES

AS NARRATED BY

NUNSOWE GREEN, ESQ., F.R.A.S., F.S.S.,

EX V.-P.S.S.U.D.S.

(EX VICE-PRESIDENT OF THE SHOREDITCH AND SPITALFIELDS
UNIVERSAL DISCUSSION SOCIETY).

At our pace of progress, as I am always saying, what are things to come to a thousand years hence?—AUTHOR, chap. i. *et passim*.

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CONTENTS.

CHAPTER I.

INTRODUCTORY AND QUITE INDISPENSABLE TO ALL THE
CHAPTERS THAT FOLLOW.

	PAGE
Of myself and my wife	1
My most particular intimates, White and Brown ...	3
Formation of the great S.S.U.D.S., and discussions on questions of the day	5
My additional intimates, Black, Yellowly, and Reed ...	6
Black, and science questions: Electricity and the Cross- Electric	9
Yellowly on social and political questions	9
On democracy and progress	10
On trade unions	11
On future amelioration of labour conditions ...	12
On social advance, and some present remediable defects	14
On some great lines of attainable progress ...	15
Reed, and religious questions... ..	17
Reasonableness and common sense in religion ...	17
Righteousness and usefulness of life	19
Extreme views: Eternal hell	19
The Sunday question: Sabbath <i>v.</i> Lord's Day ...	21
"Answers to prayer"	24
The "praising" of God	24
Sensational religion	25
A popular revival preacher	26
The future of good but sceptical men	27

	PAGE
Gray and Mormonism	28
A proselytizing scrape	31
Minor polemics: White and Brown	33
Forecasting the future. At our pace of progress what are things to come to in the future?	34
My own general forecast	35
Black's scientific forecast	36
Yellowly's social and political forecast	38
Reed's religious forecast	40
Gray's Mormon forecast	41
Brown's remarkable dream	41
A memorable holiday trip	42

CHAPTER II.

IT IS INDEED NO OTHER THAN A THOUSAND YEARS HENCE—A
BUSINESS EXPEDITION—HOME AND FOREIGN TRADING, AND
THE HOME TOUR—THE CHIEF HARDWARE AND ENERGY
DISTRICTS OF OUR DAY.

What travelling is in these advanced times	45
The crowd of our modern life	46
A scientific experiment quite in character	47
Cabs, cab-stands, and cab-travel	48
Our modern money	51
Our first business destination	53
Subterranean life, and the "sub" system	54
The Stock Exchange of these days—Rise and progress of the great Bullings	55

CHAPTER III.

LIFE AND BUSINESS IN THE TWENTY-NINTH CENTURY.

A great subterranean abode	59
A subterranean landscape	61
The hardware and Energy trade in A.D. 2882	63
A glance also at the provision trade, and the world's great food question	65
Retrospective view of the trade	66
Value and resource of the dead to the living	68

CHAPTER IV.

OUR FOREIGN BUSINESS TOUR: THE OUTER CIRCUIT.

	PAGE
My various plans and projects of travel	73
A bargain with old Brown	74
A glimpse of the great Bullings of the Stock Exchange	75
Yet one more of my projects	76
Off to Mars	77
Voyaging incidents, safeguards, and accommodations ...	77

CHAPTER V.

A RETROSPECT OF A THOUSAND YEARS.

Some chief causes of our great progress—	
Great increase of population	83
The woman as well as the man at work for the world ...	84
Universal education of the people	85
A new page turned in university life	88
Cessation of war: how and when it came about ...	89
Trades' union reform, and advancing condition of our working classes	90
A word on co-operation—its economies and progress ...	92
The great Parliamentary block, and its final cure by the “Special Hansard”	94
State aid to progress by means of Special Trusts ...	97
How we reduced the interest rate, and finally extinguished our National Debt	100
State assistance free to the poorer youth	104
Progress by speciality of study	105
Progress consummation for the time, in the grand discovery of the Cross-Electric	107

CHAPTER VI.

A CHAPTER ON SOME EARLY BUT HIGH POLITICAL CHANGES.

Political and constitutional development, and the Common- wealth of England	112
The story as to how war came at last to its end ...	114
An incident out of war-cessation	122
The map of Europe after the nineteenth century ...	122

CHAPTER VII.

THE NINETEENTH CENTURY. WHAT COULD STILL BE DONE WITH
ITS SMALL REMAINDER.

	PAGE
What befell court dress	129
Our most exemplary episcopate	129
Special trusts: The great scheme of a resanitated London ...	132
Reception of the project... ..	133
The opposition	134
Mode of the work as to finance	135
An episode of the project	137
General plan of the work	138
Some chief features	139
Concentration of the public offices	144
Other special trusts: the national drama	146
Housekeeping economy for the masses—Mechanics' hotels	149
No longer "Ireland our difficulty"	152

CHAPTER VIII.

THE TWENTIETH CENTURY: SOME OF ITS PROMINENT FEATURES.

A passing Transatlantic family jar	156
Club life after the nineteenth century	158
Women's clubs	162
A trade union crisis of the twentieth century	165
Social resanitation: a disposition to take society's evils thoroughly in hand	168
1. Our new policy with crime	170
2. As to begging and general vagabondage	173
Yet one more step of advance and reform	176
An enemy still capturing our territory, even after the entire cessation of war	177
A trade union strike at the end of the twentieth century	179

CHAPTER IX.

THE TWENTY-FIRST CENTURY: ITS ILLUSTRATION BY A PROGRESS
OF PRINCIPLES.

Our National Church, as it appeared and fared in this twenty- first century of our era	182
The United National Trades Union, and its first centenary of the death of Yellowly	185

	PAGE
Address of its president	185
The Union's reforms	186
Its political intervention and results. Some chief political questions of the day	187
A new order of rank, national and international	192
Woman's position in society	195
Aspects and prospects : our country and the world in this the twenty-first century	196
Our empire as it emerged into this twenty-first century	199

CHAPTER X.

THE TWENTY-SECOND CENTURY : ITS ILLUSTRATION BY OUR
SOCIAL WAYS.

Marriage in the twenty-second century	204
State intervention in marriage	206
Marriage settlements	208
Divorce in the twenty-second century	209
Two typical instances	210
A new "International" in this twenty-second century	213

CHAPTER XI.

THE TWENTY-THIRD CENTURY : ITS SOCIAL ASPECTS.

A completing social resanitation	225
The Selphnil family	228

CHAPTER XII.

THE TWENTY-FOURTH CENTURY : ITS RELIGIOUS ASPECTS.

The great Mormon Church	234
Its trials	235
Its triumphs	236
Other or lesser Churches. The old Roman	239
The Anglican	240
Others, various and conflicting	241

CHAPTER XIII.

THE DAWN OF THE TWENTY-FIFTH CENTURY : ITS GENERAL ASPECTS.

	PAGE
New and enlarged career for our English race	247
Old England's last premier	249
His portentous session ; inauguration address ; the features and signs of his time	251
Some striking features of his time	252
The Crown of Labour	255

CHAPTER XIV.

SCIENCE PROGRESS OVER A THOUSAND YEARS' RETROSPECT.—

PART I. FROM THE DISCOVERY OF THE CROSS-ELECTRIC TO
THAT OF THE DUPLICATION OF THE CROSS.

The Cross-Electric Principle	264
Electro-Light speed	265
The Duplication	265
Extreme simplicity when known	268
Grand results from the discovery	269
Our "prentice hand" in missives to outside worlds ...	270
A missive from outside to ourselves	272

CHAPTER XV.

SCIENCE PROGRESS IN A THOUSAND YEARS' RETROSPECT.—PART II.

FROM DISCOVERY OF THE DUPLICATION OF THE CROSS, UP
TO DISCOVERY OF THE REDUPLICATION.

Reproduction of successive past aspects of our earth ...	276
Curious questions and solutions, scientific and historical ...	280
Intercourse with worlds outside : the "Higher Life" of the Universe	282
Some special outside acquaintances	284
The condition of the press in these our modern times ...	287
An editor of the time	289
Our outside-world acquaintance—Coloured-sun systems ...	290
Effects of solar colour	292
A ternary coloured system, Blue, Green, Red, and respec- tive peculiarities of people	293
Its striking midnight skies, and effect upon the mind	296

CHAPTER XVI.

SCIENCE PROGRESS IN A THOUSAND YEARS' RETROSPECT.—PART III.
 GRAND CLIMAX OF THE DISCOVERY, BY BLACK, OF THE
 REDUPLICATION.

	PAGE
Black's grand discovery : what was it ?	303
Black's practical application : first outside voyage ...	304
To and from the moon : preparations	305
Departure, and voyage	308
Exploration and condition of the moon	310
Return to earth	312

CHAPTER XVII.

INTERPLANETARY PERSONAL INTERCOURSE.

Venus and the Venusians	314
History and features	316
Mars and the Marsians	317
Physical features	318
Marsian progress	319
Things social and political	321
Other members of our solar system	327

CHAPTER XVIII.

OUR FOREIGN TOUR, RESUMED FROM CHAPTER IV.: THE
 OUTER CIRCUIT.

Arrival at Mars : reception	330
Business	331
Politics	332
A Marsian public dinner	333
An attack : a Marsian "leading article"	334
Arrival at Io, the First Jovian moon	338
Physical features	339
Manners and customs of the Ioans	342
Return home <i>via</i> Vesta and some other planetoids	346
Vestian people and business	348

CHAPTER XIX.

OUR FOREIGN TOUR : THE INNER CIRCUIT.

	PAGE
Preparations	350
An old friend turns up once more	351
Our further programme of travel	353
Arrival at Venus	353
Arrival at Vulcan	355
Vulcanian features and peculiarities	357
The Vulcanian people	358
Arrival at the sun : danger of the voyage	359

CHAPTER XX.

THE SUN, AND THE SOLAR POPULATIONS. A YET "HIGHER
LIFE" THERE.

Upper and Lower Solardom	366
The Upper Solar people	368
Our personal experience of them	372
Their grand science attainments	376

CHAPTER XXI.

RELATES CHIEFLY TO A VERY CURIOUS DREAM OF MINE.

A cross with Brown—this time not the Cross-Electric ...	381
My dream, and the disappointing awakening	383

CHAPTER XXII.

HOME'S REALITIES AT LAST : REAL, AT ANY RATE, IF STILL FURTHER DISAPPOINTING	390
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A THOUSAND YEARS HENCE.

CHAPTER I.

INTRODUCTORY AND QUITE INDISPENSABLE TO ALL
THE CHAPTERS THAT FOLLOW.

As I always say, at our present pace of progress, what will things come to a thousand years hence?—AUTHOR, *passim*.

HAVING to describe, in these pages, a variety of persons and circumstances, connected with myself or my belongings and surroundings, immediate or otherwise, what so natural and fitting as that I should, first of all, treat

OF MYSELF AND MY WIFE?

“Business first.” That is my motto, and my wife and I are entirely at one there. We agree in a good deal more, I am happy to say. If we don’t agree just in everything, that is hardly to be expected even of the best of wives. But, taken altogether, we are a happy family, with a happy home. “Home, sweet home,” say I, “there’s no place like home.”

Here, then, is simply the little bit of ground upon which my wife and I do not exactly pull together. Giving, as I do, all due precedence to business, yet, business over and done with for its time, the mind, as I hold, may betake itself to other, nay, call them even higher things. Thus I have a decided turn for statistics and certain departments of science, the marvels of astronomy in particular. But my wife has not, and makes no secret of her impatience with that sort of thing. "My stars! Nunnie," she will say—my Christian name, by the way, is Nunsowe, after my maternal relations—"leave those other stars to their own courses, and stick you to business; you do best at that." Yes, I flatter myself that I do pretty fairly at business, and in that opinion we are also agreed.

But neither wife nor business are to drive me out of science, and I shall have a deal to say on that high score ere we reach my last chapter. If one friend does not appreciate, another does. Thus an influential customer at our shop got me proposed and passed as a member of the Statistical and Astronomical Societies. My wife growled at first at the heavy subscription money. But presently the letters I could put at the end of my name began to take her fancy; and when, at one of the soirées, a live knight actually helped her to coffee, while she occupied a sofa just vacated by, and still warm from, a real countess, I heard no more objections, even upon the money question.

We are both, as I trust and believe, good Church people. She is somewhat High, at any rate as compared with her husband. She regards him, and perhaps, in a comparative sense, truly enough, as Low

and Broad, neither quality very savoury to her mind, especially the first, which she always associates with conventicle and nonconformity outbreak, radicalism, and that general upsetting of the "lower orders" of society, which, as she affirms, is now turning everything in Church and State topsy-turvy. Even the late mitigation in Court dress was not at all to her mind. In these times she would surrender nothing to the enemy.

Her temper was sadly ruffled lately in one of those modern upsetting ways. Having helped to start a servants' home in our district, she was elected on the first committee, and was no little gratified by the distinction. But she was so strict with the inmates, ever reminding them of their proper sphere, and the due recognition of their "betters," that at last a mutiny broke out all over the establishment, and was only with difficulty suppressed. And how could it have been suppressed at all, amongst such naturally perverse people, my wife maintained, but for all her disciplinary care in the first instance! And yet at the next election she was dropped out of the committee, her name being at the bottom of the poll. After that, never speak to my wife of the merits of free elective institutions!

MY MOST PARTICULAR INTIMATES, WHITE AND BROWN.

White was an old retired coasting skipper, settled down for his life's short remnant in our part of great London, and with whom, in his business day, I had done many a good stroke in freights, or frights, as he always pronounced the word. He was a hearty

old cock, always ready for a yarn, and with a romantic turn about travel by land and sea which I greatly enjoyed. He and I used often to forecast the future of travel, and wonder what travelling might come to, say a thousand years hence. White would assert, in his vehement way, and with a slam of our table that would send the tobacco-pipe out of his mouth, that he should not wonder if our descendants got outside the world altogether, and voyaged far and away upon the ether ocean.

Brown, again, was even a still older friend, a near neighbour, and a brother trader in the same line as myself, although happily sufficiently "round the corner" to save mutual business interference. One of his sons being in a stockbroker's office, we were often amused by accounts of the bulling and bearing that went on in the Stock Exchange, and both of us were curious as to how fortunes were made there. But, as fortunes were also lost, we never risked our money. Our two families had been long intimate; and if there has been anything in my wife's late mysteriously significant looks and hints, as regards our eldest girl and another son of Brown's, the said families are, some day soon, to be more intimate still.

Brown and I agreed in most things to a very hair's-breadth. If not very much ever came out of Brown, the amount that went into him was something marvellous. He was the most exemplary listener within all the range of my acquaintance, and I was bound to reward him abundantly in that way. On our half-holiday Saturday excursions, we used to seek out some suburban solitude, by way of change from busy and noisy London, and there I would pour into

Brown's ready ear all my ideas about things in general, and our future progress in particular. We remarked how each successive year we had to go further and further out upon the suburban lines to secure this luxury of solitude. Some day London will have overspread the whole country, and some day all the rest of the world will be equally filled. After that where was the increase to find even foot-room? How would it be a thousand years hence? We should be filling up the seas, and excavating second and third surfaces beneath our feet.

Lastly, comes myself, in this trio of intimates with White and Brown. My own name is Green, Nunsowe Green, in the cheesemongering and provisioning line, wholesale and retail, and in a business way always at the reader's service.

FORMATION OF THE GREAT S.S.U.D.S., AND DISCUSSIONS ON QUESTIONS OF THE DAY.

The establishment of "The Shoreditch and Spitalfields Universal Discussion Society" formed quite an era in our locality, and gained me fresh intimacies which I must presently describe, as those, as well as the others already dealt with, have much to do with my present story. That event is now of some little time ago, and our society has attained, in the interval, no small local fame and usefulness amongst us. We discuss freely all questions. But as my particular bent is the future, I turn the tide in that direction on every opportunity; and many a paper I have read, on the question of what our progress, at the present pace, is to do for us. What will things come to a thousand years on? May I be there to see.

Having been myself a leading promoter of the society, and in consequence elected to the first vice-presidency, I was brought in contact with some few others, who have since become also my intimates. I must now introduce these friends to the reader, in connection with the different questions of discussion which they respectively took up and made specially their own.

MY ADDITIONAL INTIMATES, BLACK, YELLOWLY,
AND REED.

Black was a superannuated laboratory assistant to a chemical professor; and as electricity and the spectroscope had suddenly flared out upon science just prior to his retirement, and much aroused his curiosity, he had become, in his old age, quite an enthusiast in these questions, electricity in particular. He had pretty well the whole argument to himself amongst us, and was therefore very bold and free in his views. When I had listened for ten minutes to Black, I was ready to unload again for hours upon Brown. Of course we made Black our president, an honour he has ever since maintained.

Yellowly was a skilled artisan, a sensible and thoughtful fellow in his way, an ardent unionist, and zealous in other ways for the influence and well-being of his class. He was our great authority on the future of the working classes, and of society and government in general.

Reed was a merchant of our neighbourhood, a superior sort of man, of good education, and latterly very successful in his business. But although all

this and more, he always stuck to his old friends, and continued his leading part in the society's discussions. If somewhat Broad, he was yet, like my wife and self, a good Churchman. This double quality of his—the bad Broad with the good Church, as my wife put it—might have quite neutralized her regards in that direction, were it not for Reed's good social position, which made her always very proud of his and his family's acquaintance. Besides, Reed was a zealous and very successful Sunday-school teacher, and in such high repute in the parish for his method of teaching, that it deserves here a passing notice.

His method was this, that in reading Scripture with his class, he always did it dramatically; that is to say, as though the various parties in the narrative were actually addressing us. The reading in any case was always as though spoken, instead of the monotonous drone of ordinary reading. The boys and girls were each in turn assigned their part, and they were exhorted respectively to perfect themselves so as to deliver their parts naturally and fluently and without the book. The consequence was an intense emulation in all the class, and a fresh interest in the Bible narratives under this natural treatment. Our friend's Sunday evening Scripture readings became quite famous in the district; and his juvenile troupe of actors and actresses, as he purposely called them, would give off the story of Joseph and his brethren, of Ruth, of Esther, and many others, with an effect that sent a thrill through the large audience that at times witnessed the performance.

I have said that Reed purposely called the young pupils his acting troupe. He was wont to deplore the

neglect amongst us of the lifelike dramatic method, alike in instruction, recreation, and mere amusement, and the disrepute and injurious and absurd prejudice attaching to everything theatrical. No doubt there had been some good cause in the low quality of most of the past and current theatrical entertainment, and the consequent secondary position of the acting world in general. He advocated even the direct intervention of the State to lift the drama effectually out of the mire into which it had so long fallen, so as to make the profession perfectly respectable, and thus restore to society one of its very best and most powerful resources.

There was lately another incident, characteristic of Reed, at the marriage of one of his daughters. He was for everybody being fully and usefully occupied in the world, and would speak poetically of The Crown of Labour, as that which was to excel and outlive all other earthly crowns. My wife, who had been much gratified by the invitation she received on this happy occasion, had a mind to specially please Reed and the young bride, by saying, in their hearing, something, as she thought, extremely complimentary. Watching, therefore, her opportunity, she dropped the remark that the young lady, with all her expectations, might fairly have aspired even to marry a title. The fair bride was, in fact, to marry only an intelligent young merchant, who had still his way to fight in the world, and who sought a wife to fight it along with him. But judge of the amazement of my better half when Reed replied that he both approved and preferred the choice the girl had made for herself. There were three classes, he went on to say, whom he would rather his

daughters avoided, in their laudable efforts to mate themselves suitably. These were—blood relations, soldiers, and noblemen. Not, certainly, that these were worse than other people. But the first involved deterioration of breed, while the others were exposed, in perhaps most instances, to a comparatively unemployed or idling life—a condition which was not favourable either to married happiness or to life's highest or best enjoyment.

BLACK, AND SCIENCE QUESTIONS: ELECTRICITY AND THE CROSS-ELECTRIC.

Electricity was, as I have said, Black's great hobby. He had a notable theory on the subject, which was entirely his own, as he constantly and proudly assured us; and this was to the effect, that by crossing the electric current, in ways hereafter to be discovered, we should enormously increase the power and quality of the work done by the electric agency. We might some day be able to cross and re-cross and cross yet again, with ever-increasing powers, until our dynamics could send us on the wings of light itself over space, and our chemistry could synthesise, as he learnedly worded it, all the organic as well as the inorganic world, and turn out for us, from the laboratory, a savoury beef-steak as readily as an acid or an alkali.

YELLOWLY ON SOCIAL AND POLITICAL QUESTIONS.

Our social condition, said Yellowly, was in a course of quiet but really rapid change, and in a direction inevitably democratic. He explained, in accordance,

that word of disturbing associations, "Progress." What was the real meaning of the term? It meant substantially the suiting and smoothing of the way to the many who were ill-off, in their everlasting struggle to rise some little towards the condition of the few who were well off. If the hundred of the one class were wearied and worried by its incessant dust and noise, the hundred thousand of the other were refreshed and helped onwards to an improved condition.

ON DEMOCRACY AND PROGRESS.

Democracy and Progress, then, meant the great social and economic change towards a less unequal condition. Instinctively the ill-off masses called out to expedite the progress, while the comparative few, who were already well-off, as instinctively shirked or deferred the ordeal. In this grudging spirit our upper and well-off classes were liable to lose the lead which they might otherwise retain. All our hereditary preferences are for gentlemen in position, manners, and education to lead us socially and politically, if they will only show the due courage, and not be scared by the shadows of inevitable things. If our leading classes would still lead, they must not grudge the disturbance of progress. But if these will not head the inevitable progress, others must push them aside and take their place. It has been sagely said, "Educate the masses first, and enfranchise them afterwards." But in practice it has been found that the only way to secure the progress was to enfranchise first. Thus an unprecedented race has set in since the great franchise extension of

1832. The further extension of 1867 brought us our General Education Act of 1870, and its succeeding improvements; and the impending still further franchise extension may be expected to give a marked further impetus to society's advance.

ON TRADE UNIONS.

Yellowly was an ardent unionist, but he was quite alive to certain vices and defects in unionist views. He was, for instance, utterly opposed to the whole coercion system, which doubtless both prejudiced and limited union life. He thought that unions might be so regulated, that membership would be a privilege, pecuniary and otherwise, of sufficient value to prove self-attractive, and, at the same time, to give the effective whiphand over members in regard to union discipline or personal conduct. One of his great aims was the institution of a permanent great National Representative Union, composed of selected delegates from all the other unions—a sort of Upper House or Senate in union life. Such a body, serving as a final Court of Appeal, might be expected to reject or annul such narrow, selfish, and erroneous views and rules as still lingered in the separate unions. He was encouraged in this idea by the decided progress towards better and more correct views within the unions, even during the last few years.

Yellowly hoped, in short, to see the last prejudices against such inevitable results as the piece-work system die finally away, and along with it that unreasonable and unreasoning fancy about giving to all hands, good, bad, and indifferent, the same rate of

wages. More than anything else did he deprecate the narrow and unjust monopoly involved in the apprentice limitation principle, and in other respects also the ungenerous and unbrotherly walls of mutual exclusion which the different trades too jealously built up against each other. As to picketing, rattening, and such like, they were with Yellowly beneath contempt, and hardly to be even spoken of with common patience. At a Brickmakers' Union one evening, when one of the members was recounting his success in so disabling the hands of certain non-unionists, by putting needles into the clay, that their families were likely to starve for some weeks to come, Yellowly, as he told us, could with difficulty resist smashing the teeth of the vulgar ruffian, as he leered complacently over his ghastly and traitorous story.

ON FUTURE AMELIORATION OF LABOUR CONDITIONS.

Yellowly was full of other schemes for the advance of his class, and that of society generally. He had large hopes from the effects of the universal education now being enforced; and again he had further hopes in other directions from all kinds of co-operation, by which, in brief, the present scant comfort of working-class life might be doubled, and at one-half the present expense of working-class living. He fully expected that the unions, under the better regulations of the future, would promote more of a sentiment of honour in regard to conduct and character, and particularly as to the prevalent evil of intemperance. On this subject, he would fain that his class, as the party chiefly affected, took a more leading charge of

the great public-house question. His own view was that the public-house proper should not open till the workman's dinnertime. This decision was upon a balance of considerations, in which the temptations and evils that were avoided far outweighed any or all others. He knew the power of the temptation, from having himself formerly given way to it. What rescued him was a friend's advice, always first to quench actual thirst with water. By adopting that practice he recovered completely his self-control, and thus gave new motives and a new joy to his whole life. He would therefore have water at hand everywhere—a tap of the pure element to confront every tap of strong drink, and on such equal terms, to fight sobriety's great battle. Yellowly, however, sympathized far too heartily with his fellows, in their rough and hard life, to set up any mere moralizing on this latter subject. He had more material aims, as he would fain save their hard-earned money, thus so profusely dissipated, for better uses, and for building up the power, credit, and influence of all his class.

He exhorted all his class to honour and respect woman, even if for no higher aim than their credit and influence with society generally. He was a strong advocate of woman's rights. The woman should be equally free with the man to help herself, and help on the world, in all ways suitable to her. The world would advance at a quicker pace by help of her head and hand. He wanted to see the establishment of women's as well as men's clubs; and he once bearded the Lord Mayor himself, in order to get his countenance for clubs of domestic servants, his lordship, however, asserting that unless the day

could be prolonged to twenty-five hours he had not a spare moment for further duty. Society would gain in political steadiness, he would say, by extending the franchise to woman. Society would certainly gain moral strength by woman tending her own sex in those delicate medical emergencies, where the intrusion of the other sex is never without sacrifice, and has hitherto been tolerated only as a supposed inevitable necessity.

ON SOCIAL ADVANCE, AND SOME PRESENT REMEDIABLE DEFECTS.

Yellowly had equally pronounced views on other social questions. He was a strong advocate for every one getting married. If each young man, he would say, were early engaged to each young woman, with purpose of marriage as soon as the respective conditions allowed, society would be, socially and morally, at its very best. Any apprehended difficulties about large families and over population weighed with him as nothing in the scales against the improved morality, and the consequent economy and general vigour of life.

The present aspect of society was in terrible contrast with such a picture. But much of this evil condition was even now somewhat remediable. For instance, he blamed our authorities for their laxity as to the wide prevalence of all kinds of begging, with tramping, gipsying, and vagabondage in general, by which such a huge mass of people were allowed to lapse into idle, useless, and at last, in many cases, criminal life. He considered it a most serious wrong

to the poorer classes that they could slip so easily into mendicancy or other useless ways of life, and thus become a nuisance instead of a help to society. This particular evil was now so great and universal, that high government intervention was needed for its thorough cure.

We needed, in fact, quite a new departure, both in this and in criminal jurisdiction. The hardened and hopeless professional criminal, when taken red-handed, should be permanently locked up, as long as he continued such, and for his own good as well as for the due protection of society. Others, of whom there was more or less hope, should be treated with comparative leniency. We should aim, as far as humanity and decency will permit, to prevent the criminal and worthless from leaving families behind, and thus maintaining for society an everlasting battle with professional and hereditary crime.

ON SOME GREAT LINES OF ATTAINABLE PROGRESS.

Yet another subject, and then I have done, for the present, with Yellowly. Discoursing on his great topic, Progress, he would remark that the most necessary and advantageous class of works were those which would surely reimburse all their cost by the lapse of mere value-raising time. This was the now well-known "unearned increment of value" in the country's real estate; and all experience had now proved it so reliable a feature, that he was more than astonished that no one of our successive Governments should as yet have, to any noticeable extent, applied any of its boundless capabilities to the public good.

He instanced the crying case of the thorough resanitation of London, which had hitherto been attempted, with such utter inefficiency, by private enterprise, and latterly, but hardly to much better purpose, by the Board of Works. During any thirty years of this century, the complete sanitary reconstruction might have been accomplished, and the cost entirely covered by the rise of value in the interval.

Yellowly's view, in this important direction, was, that the State should undertake the larger works of such progress, and that this would be done too without involving the country in any public debt or direct liability. He was opposed to national debts, as serious hindrances to progress, and gave us at times his ideas about reducing the interest of our present debt and finally extinguishing the principal. His plan for financing the great works in question was by "special trusts," such as that lately proposed in the abortive London Water Works scheme.

Then again, the "Parliamentary block," which rendered any great general progress, such as he contemplated, perfectly hopeless, even under the new prospect of the *clôture*, as well as anything else in the old ordinary way, he proposed to remove bodily, by substituting for *viva voce* debate a special parliamentary publication of written views. In this way he thought that opinions and views would be expressed more freely and generally, as well as more calmly and carefully than before, while measure after measure could be quietly, but with all due expedition, told off as the public needs required. As Yellowly was still in the prime of life, and already something of a leading man in his union, and amongst his class, I hardly

doubted that, if he lived long enough, he might yet leave his mark, in his own way, amongst his fellows, and upon his time.

REED, AND RELIGIOUS QUESTIONS.

Reed, as I have said, took the lead in religious discussion. Churchman as he was, he was opposed to all privilege, and hoped there would some day be realized a great inclusive national Church, based directly and wholly on Scripture, and free alike from any political pecuniary or ecclesiastical privilege or endowment, which other religious bodies could not equally attain. Religious interests represented, at best, only sections of the people. The State alone was representative of the whole people, and therefore the State was and ought to be supreme. In those various senses he approved an "Established" Church, and its ultimate appeal to the impartial and consistent dealing of the high national courts. The practice of dissenting bodies of, so to say, contracting themselves out of the ordinary law was, in Reed's view, greatly to be deprecated, as being a disadvantage to all parties, productive of tyrannical and unsteady ways, and promotive of religious dissension generally.

REASONABLENESS AND COMMON SENSE IN RELIGION.

Such was Reed's motto. No religion, he would say, could afford to dispense with either. He regarded extremes in religious doctrine, sentiment, and ritual as mainly answerable for the prevailing scepticism in this age of education, with its inevitable attendants, free thought and criticism, because of their tendency

to impart a moral and scientific improbability to religion. The Roman Church he regarded as the great transgressor in that way, as it had succeeded at last, by accumulated superstitious traditions, in making Religion incredible to a vast multitude of educated and thoughtful minds. Even still more hurtful was the ridicule to religion (Rome, however, not being the only offender in that way) by retaining an obsolete lackadaisical phraseology, worthy of the impenetrable serenity of the Dark Ages' mind, as though thus to force the way by defying the ready sense of humour, as well as the ordinary common sense, of modern society. The religion which had satisfied Newton might satisfy ordinary mortals. But this great question in particular could least dispense with judicious presentation. If we would judge surely of the reasonableness of our own religious ways and views, we should transfer them to some other and opposing creed, and see how they looked in that changed light. Our religion—the Protestant section at least—was professedly based exclusively on Scripture; and the open and simple doctrinal statements of Scripture were not wisely recast into hard creeds and confessions, which had ever divided and kept asunder the Christian people. Reed would abolish all creeds, even back to the so-called Apostle's, with its Godhead falling as much short of that of Scripture statement, as that of the so-called Athanasian passed speculatively ahead of it. The terms Trinity and Trinitarian, which now resounded so incessantly through all our faith, were not Scriptural, and should therefore be disused.

RIGHTEOUSNESS AND USEFULNESS OF LIFE.

The end in religion, as in all else for man in this world, Reed asserted, was righteousness and usefulness of life. The simple doctrinal language of Christ constantly alternated in this practical direction. Amongst the advantages, indispensable indeed to modern society, of a great staff or order of trained clergy, was this one disadvantage, that they were ever apt, by the instincts of their position, to make doctrine supreme, and thus turn the means into the end. And thus we had a permanent heritage of antagonistic religious sects, with the discouraging and almost hopeless feature that each was far more concerned for its hereditary differences, than for the substantial truth of religion.

EXTREME VIEWS: ETERNAL HELL.

Although reasonableness and common sense were already decidedly on the advance in religious views, Reed regarded certain extremes of popular orthodoxy as still answerable for much discredit and hindrance to religion. Take, for instance, the future of a literal eternal torment. Was our religion really weighted with so extreme a moral improbability? If we had not been used to such a doctrine in our own religion, what would we have thought of any other religion that possessed it? The most formidable opponent to this dogma, to begin with, is the Bible itself, in the equity, reasonableness, and mercy of its general spirit and tenour. The question here is, how far the exact literal is always to be assumed in the

Bible, highly Oriental and figurative as it is throughout, and addressed directly to the Oriental mind. The most effective argument is perhaps to show that we have not hesitated repeatedly to set aside the literal in other directions. Thus nearly all Christendom has resisted the Calvinistic view, in spite of the strong passages in the Epistle to the Romans; while the Real Presence doctrine is, on the ground of patent fact and common sense, summarily dismissed by all sound Protestants, notwithstanding the strongly literal terms in St. John's Gospel. And, again, while but two centuries ago witchcraft and an eternal hell were equally orthodox teaching, humanity and common sense have happily already quite rid us of the former. The laity first dropped it, and finally and grudgingly the clergy; and now, when for like reasons the laity have begun to throw off the latter belief, we must hope that the tenacity of the clergy will prove, as before, but a temporary hindrance.

But let us, continued Reed, directly confront the two great pillars of the dogma in question, namely, the stories of the Sheep and the Goats, and of the Rich Man and Lazarus. In the former we have Heaven and Hell respectively awarded for the performance or neglect of ordinary charities. Well, we have made no scruple whatever to relegate all this charity doctrine to the realm of figure, but we still retain all the literal Hell fire. One might surely say here, with the noble poet, in a slight modification of his words :—

“Of two such lessons, why reject
The nobler and the likelier one.”

Then, again, as to the second story, we have the

rich man in want and misery hereafter, simply because he enjoyed his abundance in this life; while the poor and miserable in this life was rich and happy in the next. "Son, thou, in thy lifetime, receivedst thy good things, and likewise Lazarus evil things; but now he is comforted, and thou art tormented." Here then, if we are bound to the literal, is quite a new religion, by which the conditions in this life and the next are to be simply and exactly reversed. Such a religion might be called the Nemesis of the Grave, and it might possibly exist, as our President Black has suggested, in coloured sun systems or other eccentric parts of the universe. We have dismissed, even without a hearing, all this Nemesis part of the case, but once more we have picked out, and clung to, the everlasting fire.

THE SUNDAY QUESTION—SABBATH *v.* LORD'S DAY.

Reed strongly opposed the Sabbatarian view, regarding it even as a serious stumbling-block in the Christian pathway to the great body of the Christian people. The view that good, honest, necessary labour could be sinful at any time or on any day of the week, placed us, at once, at variance with common sense. The Judaic idea was special, inferior, and, as regarded Christians, past and done with. The Christian ideal had superseded the old Israelitish division into secular and sacred days, because, whether in the shop, the field, or the Church, Saturday or Sunday, we were alike in the service of God. Nor should we lower this high standard because there are still many minds which do not, or cannot, rise to it. The portentous,

all but total, silence of the New Testament and the early Church upon the Jewish Sabbath, together with the prompt change of the day, seem enough to settle this question for us Christians. But, in fact, this contentious modern Sabbath question is really in the main an outcome of the Puritanism of the last three or four centuries. And here, once more, the instincts of an order of clergy are apt to be against us ; for naturally enough their tendency must be to regard the special day of their own ministrations as the best of the week. Inheriting that view, they must naturally be loth to disinherit themselves.

But the Sabbath is part of the Decalogue ! Well, but the Decalogue itself is special, early Israelitish, and perfected only by the higher and wider law, recognized by Christ, of the love of God and the love of our neighbour. Its special character is shown by “the third and fourth generation” doctrine of the second commandment, which later Scripture of wider application has superseded ; by the coercive fourth commandment itself ; by the special allusions of the fifth ; and, lastly, by the tenth, which, among covetable things, classes the wife with the slaves and chattels of her husband. In the same special category is the free polygamy and concubinage of those earlier Old Testament times ; and the highest authority has similarly stamped the “eye for an eye, and tooth for a tooth” doctrine. All this special case is still a high theological question, to which the best and perhaps the only answer has been given by Christ himself, on the occasion of yet one more characteristic instance of it, when he replied to the inquiring Jews, that “Moses, for your hardness of heart, suffered you

to put away your wives; but from the beginning it hath not been so."

But seeing that man, who is born to toil, needs a periodical recreative rest, we have wisely retained the ancient and suitable seventh day, while, for Christian reasons, it is also specially honoured as the Lord's Day. This, rather than the misleading term Sabbath, is properly for us its name. And again, whilst dissociating all idea of sin from useful and necessary work on any day whatever (for if any one fails, on occasion, adequately to provide for his household in the six days, what more appropriate or meritorious than to sacrifice also the seventh?), yet the needs of society at large require some common understanding and purpose, and even the authoritative intervention of the State, to promote and maintain a universally recognized day of rest. It is the recreative day of rest and leisure, and as such all the well-disposed will gladly and naturally avail of its opportunities for a still larger share of religious exercise and thought. But as to this we should bear in mind that neither coercive nor hypocritical religion can be either edifying to man or acceptable to God. Nor should we forget that "rest," in the sense of mere inaction, is not the most acceptably recreative agency to large sections of modern society. The great want is a freely cheerful recreative day, in which, with a large mutual charity and forbearance, every one may be left to do himself all the good he can, without disturbing his neighbour. "Let every one be persuaded in his own mind."

“ANSWERS TO PRAYER.”

Nothing is more proper to man, or more enjoined by Scripture, than prayer to God. But there prevailed widely a very free and easy assumption of special and direct “answers to prayer,” which, from the devout general or monarch on the battle-field, down to the devout leaders in more ordinary scenes of all kinds, were but too apt to involve the Divine Being in a perpetual succession of contradictory and impossible events and statistics. It is always good to pray, and every one gets good by so doing. But it is never safe, in modern experience, to assume special and direct answers. Even the apparently happiest hits, in this interpreting way, are apt to be the most laughed at, by religious people themselves, where there is variance in religious views.

THE “PRAISING” OF GOD.

The idea underlying “the worship of praise” is wholly at variance with modern advanced thought and moral perception. To praise any one, in order to please him or receive his favour, is too gross to the modern sense to be even thought of, and the higher the person thus addressed, the greater perhaps would be the affront. But by force of long unchallenged habit we can literally rant and bellow the praises of God without sense of the ludicrous grossness of the procedure. The words and example of Christ do not sustain this low ideal. The hymns our modern Churches are substituting for the old praising psalms, are a move-

ment in the right direction. The praising as the cursing psalms belong alike to the religious past.

SENSATIONAL RELIGION.

Although opposed to gross forms of religious excitement, Reed was ready to acknowledge that the masses might not be reached by the decorous quietude of religious ministration, suited to more refined and educated life; and thus he freely recognized the valuable co-operative aid of active and zealous non-conformity with the efforts of his own Church in the religious leavening of the people. But he was opposed to that extravagance that might be called the scare system, in popular preaching and conversion efforts. No doubt some few natures were aroused—scared, so to say—into better ways, but usually at the serious cost of an unhealthy and alienating effect upon all the rest. Suppose, for example, some great school where the master's system was to threaten the children indiscriminately all round, to the effect that if the naturally vicious little "varmints," as he held them all to be, did not do all he ordered them, and believe all he told them, down they should drop into some place of torment. No doubt some few specially unruly spirits might be cowed into good conduct, but what, on the other hand, would be the moral effect upon the whole school? Then, again, even if revivals and conversions in the scare way had at times such good practical results, we must remember that this sensational feature does not belong to any one religion in particular, but is the indiscriminate heritage even of opposing creeds. There is, in short, always a

grotesque side of the case which is damaging to religion in the public feeling by its suggestive aspect of moral and mental instability.

A POPULAR REVIVAL PREACHER.

For discussional purposes Reed took some of us one evening lately to a popular revival meeting. The preacher on the occasion, as he himself was fain to boast, was as destitute of human "orders" as he was of human learning. His orders, he said, were direct from Heaven. He told us he had been converted from a life of vice, and with complacent but unsavoury effusion recounted his having broken well-nigh every law, human and divine. But as, withal, he had sought and had found pardon, so no one need be discouraged on account of personal depravity. Heaven, he said, was full of pardoned depravity. The blessed angels rejoiced most over those who had been the most depraved. But some might say, "Live on as you like, only take care at the end to repent and secure pardon and Heaven." Well, it might all come right at the last moment, no doubt; but he must warn all such that they played a risky game, for they might be suddenly cut off unprepared, and thus inherit everlasting fire instead of eternal bliss.

He truly pitied all those people, so worthy in their own eyes, who led what the world called good moral lives; because all their weary and protracted efforts and restraints in that self-righteous way would not bring them, by one jot or one tittle, nearer to Heaven. He then passed to the final and terrible day of judgment, when all these people, in their helpless rags of

self-righteousness, were to come up to receive their eternal doom. Here then they are, all arrayed now on the left hand of the great Judge, and plentifully amongst them are scattered earthly judges, magistrates, long files of policemen—all of them possibly quite respectable in this world's view. These had it all their own way upon the earth, and a merciless way too. But now the judges of this world are to be themselves judged. On the right hand, again, is arrayed another group, equal to the first, but, in the world's view, of a very different quality—burglars, wife-smashers, murderers, but who had sought and obtained that mercy and pardon from Heaven, which the inferior authorities of earth had denied them. Those on the left are passed downwards into everlasting fire; while those on the right move upwards into eternal bliss, singing as they go, out of lovely angels' bosoms, their alleluiahs of holy triumph and sanctified revenge.

THE FUTURE OF GOOD BUT SCEPTICAL MEN.

Another of Reed's religious questions concerned the hereafter of our many eminent but sceptical philosophers. What was to befall this legion of able, useful, and otherwise excellent men, after their busy life here below was ended? Not a few of them might fairly dispute the high palm awarded to David Hume, after his death, by his sorrowing friend, Adam Smith, "as approaching as nearly to the idea of a perfectly wise and virtuous man, as perhaps the nature of human frailty will permit." Reed was guided in this contentious question by the moral and equitable spirit

equally pervading Scripture with the dogmatic, and demanding equal consideration. To all, therefore, whose life and conduct had been worthy, the impartial Judge would say, "Well done, good and faithful servant, enter into that higher and more enduring life, for which thou, whilst on earth, hast so diligently qualified." Besides, added Reed, those worthy people will have such a sheepish look when that unexpected day comes upon them, that it will be impossible to mistake them for goats.

This discussion proved all the more interesting to us at the time, as occurring simultaneously with the expression of a very different view on the same subject from a right reverend prelate of our Church, who had once more nailed the red flag to the mast, in declaring that Hume and Voltaire would now be experiencing that eternity and eternal fire, which, while in this life, they had ventured to disbelieve.

GRAY AND MORMONISM.

Another active and intelligent member of our society was my foreman, Gray. For business purposes there could be no better man. But Gray was a zealous Mormon, having been converted by a mission of that persuasion some years before. His wife, although disliking the Mormonism for more reasons than one, yet admitted that the conversion had given herself a better husband, and her children a better father. When my offended wife would have had me turn him off forthwith, I explained that certainly that orthodox course meant a reduced credit at the year's profit and loss account, and consequently reduced possi-

bilities of milliner's bills. So her opposition in that direction ceased.

Gray would say that religion had its rotten-egg stage. The early Christians had to encounter it, and so now have the early Mormons. But if he had to be prudent and guarded outside the society's walls, his zeal did not spare us within. The future, he would assert, belonged to Mormon truth, and he would like, of all things, to witness the spread and triumphs of his Church five hundred or a thousand years hence. Until his conversion he had been negligent in the religious sense; but now he was himself full of converting zeal, and, with a solemn and adroit way he had, he was not unsuccessful. For instance, standing at his own door one evening, when a person passing in the street inquired of him the way, he got him inside, promising with serious manner to show him the true way. There he succeeded in engaging his visitor in earnest discussion and prayer; and the man, who frankly admitted that he had not previously attended much to religion, was so struck by Gray's words and manner, that he called repeatedly afterwards for further insight, and ended by conversion to Mormonism.

Gray had great faith in getting people to their knees. He would say that half conversion's battle was over at that stage. An odd incident once happened to him, in that converting way, on meeting accidentally, in the railway train, an equally zealous rival missionary of one of the smaller and more active religious bodies, who was, like himself, a great scare converter. The particular method of this latter party was to run up to people passing on the highway, and

demand of them, in all anxiety and alarm of expression, if they were yet saved. Both missionaries had enjoyed converting successes that day, and each was returning home more or less satisfied, when they happened to meet in the same compartment of the train. As the saying is, "When Greek meets Greek, then comes the tug of war." Each, catching in the other's eye the sinister glance of religious diversity or unbelief, seized upon the other to bring him to his knees. But neither party expecting the other's attack, and misunderstanding its harmless meaning, there were immediate and loud calls from both simultaneously for guard and police; and it was only after due explanation from either side that they were both discharged from custody.

Gray had full belief in eternal punishment, and would solemnly declare that everlasting fire awaited all who rejected Mormon truth. If people wilfully accepted the alternative, he would say, how was God cruel to leave them to their own will and choice? The heart was at fault in unbelief rather than the head. If any one pleaded the impossibility of believing Mormonism, he would sharply ask if it was impossible for him to fall upon his knees and pray for true faith, which, if prayed for honestly and in earnest, would certainly be given. And again he would urge people to believe, if only on prudential grounds, for even if religion, after all, proved to be a myth, they lost nothing, whereas if true they lost everything. Above all, he earnestly exhorted converts to abstain from reading or listening to the profane attacks of the outside Gentile world, however plausible, upon Mormon truth.

Violet, another active member of our society, was one of Gray's hardest opponents. Violet in religion was Unitarian, and in his phlegmatic way, which was so irritating to Gray's sincerely hot zeal, he would argue that God must be as greatly dishonoured by believing too much as too little. The "peculiar domestic institution" did not, of course, escape Violet's sarcastic animadversion. But the already well-practised Gray was not unprepared for the enemy on this delicate point. He would remark, with an off-hand but lofty reserve, that if he must condescend to defend what God himself had, by direct intimation, sanctioned and even enjoined upon the saints, he would ask what was man that he should presume to set up his mere human notions of morality against God? God was infinite, and infinite morality might well be, and doubtless really was, something different from the finite.

A PROSELYTIZING SCRAPE.

All this "measure for measure" was well enough in its way; but my over-zealous converting foreman was as nearly as possible in a serious scrape lately, which came about in this way. There were two young Scotch girls, sisters, and servants next door to us, whom Gray thus got slightly to know, and on whose conversion he had set his heart. They had, however, very much taken my wife's fancy by their quiet and humble ways; and accordingly she never rested till she had got them out of their wrong northern Presbyterianism—a religion in her eyes no better than it should be—and had them both securely

confirmed at our parish church. As the great organ was pealing all through the building when the girls first entered it, a cold shiver ran through them, because, as they said, it seemed like entering a play-house on the Sabbath. My wife, however, succeeded in laughing them out of this nonsense, as she called it. But, alas, for those area stairs in our city houses, so useful to pass food to the body, they facilitate also poison to the soul. Two Catholic sisters, on a conversion mission, found their way down. They were gentleness and meekness personified. When they exhorted to pray preferentially to the Holy Virgin, who, as Mother of God and Queen of Heaven, had more influence for people's good or ill than any other member of the Godhead ; when they expatiated further on the all but super-mortal Infallible earthly Head of their only true Church ; and finally upon everlasting fire in reserve hereafter for all who refused to be saved through the Catholic Church, the girls were at last reconverted ; and as they had to attend mass by stealth, for fear of losing their places, they became all the more zealous about their new faith.

But now opens another and final scene in this little drama. One of the girls is taken seriously ill. She had caught severe cold some time before, in attending a protracted midnight revival meeting, to bring in the new year ; and now a galloping consumption had set in, and the young life must so prematurely close. Deathbeds were always Gray's grand opportunity. He contrived to gain access to the patient, and when the excitement and alarm, into which he succeeded in throwing her, threatened immediately fatal results, he was only all the more pressing to secure the con-

version during the last possible and precious moments. A fit came on in consequence, from which there was no subsequent rally; but he could assure the surviving sister that the last sparkle of the eye looked that of true faith. The sister was thus also converted; and she afterwards emigrated to Utah, to be safely sealed for Mormon paradise as thirteenth wife of a Mormon elder.

Reed was furious when he heard of this business, and spoke freely of the benefit of diverting such murderous zeal by twelve months of the treadmill. He even called upon the coroner to consider about having Gray arrested, with the view of having him tried for manslaughter. The coroner stood aghast at the new field of work thus opened out to himself, and asked where, in the discrimination of such doings, he was to stop; for Reed had clearly enough intimated that he had no idea of limiting his action to Mormonism.

MINOR POLEMICS—WHITE AND BROWN.

White was Wesleyan, while Brown was Calvinist. Quiet old Brown held the stern and iron faith, while that of love and gentleness had fallen to vehement old White. Yet in religious matters Brown was anything but quiet, and was ever seeking a fling at White, whom he usually and easily discomfited by throwing at him a ready succession of Scripture texts. A remark of Reed's one day, that the only effectual way to settle an extreme sectary was to bring down upon him another sectary still more extreme, was duly treasured up, for defensive purposes, in White's mind. Accordingly, the next time he argued with Brown, White had

provided the company of a neighbour and acquaintance of his own, who was also Calvinistic, but in a decidedly more advanced degree than Brown. Poor Brown was soon effectually smashed, and White's future peace secured. We nicknamed this terrible fellow the Unmitigated Calvinist, while Brown was only the Mitigated, or mere Reason-Reconciliation Calvinist.

FORECASTING THE FUTURE—AT OUR PACE OF PROGRESS
WHAT ARE THINGS TO COME TO IN THE FUTURE?

In accordance with my own particular hobby, I would, on every possible occasion in our society, turn the discussion upon the forecasting of the future. Our present progress was in geometric ratio, to use a common phrase. Every ten or twenty years' advance exceeded that of any previous like interval, and where shall we be after fifty or a hundred more such intervals and such advances? I presented my own ideas on this subject to the Society, and I persuaded some of our other leading members to present theirs also, for successive discussion. Thus we had, in particular, a scientific forecast from Black, as to what might be the world's attainments and condition, through the advances of science over another thousand years. This was followed by Yellowly, on the social and political changes impending upon the inevitable progress of our country and of the world in general. And lastly came Reed's forecast of the religious future, in which the Church of reasonableness and good common sense would have made a more effective development. Let me, then, in this looking-forward direction, begin with—

MY OWN GENERAL FORECAST.

My great subject was the crowd of the future of the world's population. Nationalities would be merged in those days. But how were they all to be fed, how even to find foot-room? Supposing the food question solved in the direction indicated by Black, a very moderate rate of increase, such as that of the doubling of the numbers every third of a century, would give, in a few centuries hence, a thousand times the present population, and in a few further centuries a thousand times that again, and so on. Then, again, there was the sanitary question. What would be the health-condition with all this crowd? Here I rather prided myself on a project of the future, which was entirely my own, and which was suggested to my mind in the way I shall now describe.

Returning from business one afternoon, I came upon some little street Arabs, who were still sporting in the gutter with all the freedom of which our great Education Act has since happily deprived them. One of these children had a form and beauty so strikingly perfect, shining through all his rags and dirt, that I stood a while to muse over such striking social contrarieties; and while so engaged I developed a project which I was fain to put conspicuously into my forecast of our future. Suppose, as I argued, we were to gather together all such perfect forms of health and beauty, in order to bring up these nature-favoured persons in an educational and training way comparable with the other superiorities already theirs. Obviously we might have here the beginnings of a superior race, which might not only come to the

front, but eventually even resanitate and reconstitute the whole society. I came at last to be quite full of this idea, and even to express a willingness, at some trifle of pecuniary cost, to give a hand to see it practically commenced, on however small a scale at the first. But I got no help in this practical direction. My wife called it the sheer nonsense of these upsetting times. Even my fail-me-never old Brown, who enjoyed the theory of the thing, declared that, in going further, he could not see business in any part of it. And so, on this subject, at any rate, I was always left in a minority of one.

But to return to world-population estimates, even if we supposed only the Anglo or Kelto-German races to survive in the future squeeze, and "survival of the fittest," the multiplication, ere a thousand years, would not leave even foot-room on the world's surface. What a curious spectacle must be our world with all this population, and their striving and ingenuity to secure mutual and comfortable accommodation! As I often say, might I but be there to see.

BLACK'S SCIENTIFIC FORECAST.

Black dealt largely and sagely with the new phrase Energy. All forces were convertible into energy. We were to have dealers and traders in energy, and our money itself would some day be energy. Black's predominating idea was that electricity, which was one of the forms of energy, was at the bottom of everything. And then there was his peculiar notion about crossing and recrossing the electric current, by means of which, in successive grand eras of

future discovery, we should attain to knowledge and power as yet undreamt of. This cross-electric power would be efficacious alike to pour out unlimited food from our chemical laboratories, and to propel us at incalculable speed over the outside universe. The science of the future was to carry us far outside our pigmy world, on the wings of cross-electrified energy, and at or beyond the lightning's pace. And, again, Black's idea was that life and mind reign all over the universe, at least in all those worlds which possess an aerial or liquid medium, or both, in which life might develop, after the various primitive forces, originally convulsive, to use his learned phrase, had subsided into equilibrium. What may seem to our constitutions impossible extremes of heat or cold, may not prevent this universal life, but only perhaps vary the substances taken up into the vital structure, or affect the pace or the particular direction of physical or mental development. Thus, it was not impossible that the sun itself might be peopled. There might possibly be a solid and settled, albeit, to our feeling, a somewhat hot world of life and mind beneath, perhaps far beneath, the still mysterious photosphere. We might indulge this view, at any rate, as long as this striking photospheric feature remained unexplained. Indeed, Black would add, the photosphere itself might be just this cross-electricity ever staring us every day in the face.

Then, again, Black would throw out some curious speculations upon coloured suns and coloured-light systems. The stars, of course, were all suns, with their respective planets and moons whirling round them, and their organized life throughout, ascending

gradually in the scale, according to more or less favouring conditions, and culminating in man. The coloured suns had their planetary and lunar system like the white suns ; and, doubtless, the populations of coloured light exhibited, mentally as well as physically, some of those striking effects which science has lately begun to notice as the result of colour. Indeed, Black made no secret of looking upon colour, in this grand department of its application, as tantamount to the aberration or eccentricity, or, to put it more plainly, to the insanity of the heavens.

YELLOWLY'S SOCIAL AND POLITICAL FORECAST.

Yellowly gave us a forecast of the future of our social and political condition, in view of the race of change and progress upon which society had now entered. The future of his own class's large section of society had, of course, especial interest for him. The effects of universal education, and of the rapid and general application of machinery to supersede more and more the deadening and exhausting toil of working-class life, must alike elevate this class and equalize the condition of the whole body of society. The day might come, and not perhaps be so very far off, when every man, woman, and child would come up to the social front well-dressed, well-mannered, well-educated, and well-off.

The time must come, too, when the follies and miseries of war must cease amongst nations. But it was as yet to be sadly confessed that our advancing civilization had not hitherto backed this hope, but had rather converted hope into despair. Yellowly's

idea of the solution of this problem took the direction of imparting a military drill to all the youth of the country, so as to enable the whole people afterwards, at shortest notice, to turn out, to all the extent needful, in defence of the fatherland, thus rendering practically impossible the mutual invasion of nations.

The general political forecast was also freely treated by Yellowly. There were great political changes ahead for us, in substance, at least, if not in form. We had our own peculiar political ways, and would probably keep to them to the last, unless unforeseen incidents gave the political machine any revolutionary upset. We were already in a course of actual change, and at no dilatory pace, although the political surface, in point of external form, remained undisturbed. Thus our government had passed already into what was called a "constitutional" monarchy, in which the hereditary monarchy survived, but at the expense of the surrender of any independent views or will of the personal monarch. It was not difficult to foresee what must be the end of that in democratic progress. "The Crown" would gradually pale out of sight as regarded practical government. Queens, by force of the natural courtesies of sex, and of that more exemplary life which circumstances help to give to the other sex, would protract this result more successfully than kings; and, again, queens who were also super-excellent women would protract it still further. The hereditary element must everywhere die out amongst us as an actual political power. Nevertheless if, as said above, our normal development remain undisturbed by revolutionary incidents, we shall not lapse into a republic, which is a term politically

foreign to us. We shall continue to possess a Parliament, headed, in the country's actual government, by a premier who is dependent on a parliamentary majority. We shall be a commonwealth, as, indeed, we have already been, and still are—the great Commonwealth of England.

REED'S RELIGIOUS FORECAST.

As Yellowly's chief sympathies lay in forecasting the future of his class, so Reed's lay in that of his Church. He foresaw the progress of religion generally in reasonableness and good common sense, and he was persuaded that his national Church would, as became her, head the movement far more effectively than she had yet been able to do. But in order to ascend to all this honoured position, she must throw off various worldly incumbrances, and betake herself much more to the simplicity and the open and inclusive doctrinal teaching of Scripture. The bishops must surrender the stumblingblock of their political power. He would not abandon the convenience and defensive strength of a learned, exemplary, and honoured episcopate; but the Church must drop out Apostolico-Episcopal Succession, that cherished myth of the past, which history has at length dissipated. In these ways might a great national Church be reconstituted, attracting into its wide and generous fold the great body of the people, and reducing outside dissenting extremes to a comparatively small surrounding, whose antagonisms, mutual and general, might well form the best set-off to the moderation and good sense of the main body.

GRAY'S MORMON FORECAST.

Lastly, our friend and associate, Gray, of course, suggested a very different forecast—one in which, as he asserted, Mormon truth would take its rightful possession of the earth; and old Brown, too, would still put in a word for the future resurrection of now expiring Calvinism.

BROWN'S REMARKABLE DREAM.

How often it happens that a whole busy lifetime seems to pass before the mind during some short interval in a dream! Brown has been full of this idea of late, and he recounts to me how, during a short after-dinner snooze, his mind had pieced together, in most magnificent order, all the marvels of progress I had so often poured into it. He dreamt the other day that he had survived into a thousand years hence, and was revelling in all the accumulated progress of that far-off time. Here truly was for me a full harvest for all my long and patient seed-sowing in the field of old Brown's knowledge-box. At any rate, the affair made a strong impression upon Brown, his great regret being, as he repeatedly said, that he had not my ready pen to have jotted down at once everything just as it appeared while the vision was still fresh in his mind. "If I had but your knack of writing, Green," he would say, "I would have had out a volume on the subject, and might possibly have turned a good penny out of it too." And many a joke we all had over the old fellow's remarkable dream.

A MEMORABLE HOLIDAY TRIP.

We always give ourselves a holiday trip on Easter Mondays, and the very last occasion was, in a comparative way, memorable, for we had company with us, and we went somewhat further afield than usual. In short, we went as far as Brighton, and our company comprised the oldest son of our old friend Brown. Our oldest girl looked particularly happy under these circumstances. That affair of hers is as good as settled now, and, indeed, from the very first I regarded it favourably; for the youth seemed a prudent, sensible fellow—a true chip, in fact, of the old Brown block, and likely to push his way fairly in the world. But my wife, whose maternal matrimonial eyes have been rather upwards ever since our business began to graduate into the wholesale, had not been quite so satisfied, and at first rather looked down on the Brown connection, cheesemongering and provisioning, just like our own as it was, and wholesale, too, as well as retail. But then that was entirely between her and myself. She afterwards got accustomed to the young fellow, then pronounced the event inevitable, and ended by a strong liking for her prospective son-in-law.

So we were all at one last Easter, and we did enjoy ourselves on that occasion. I had promised my young friend, who was about to set up in the hardware line, not only to procure him useful introductions, but also to accompany him personally next morning in his preliminary business tour to our central iron districts. The fact is, and between ourselves, good reader, I was ever on the alert for the

chance of a jaunt anywhere, as my wife would allege of both old White and myself, notwithstanding all the usual sobering of years to both of us. My foreman, Gray, was quite trustworthy in one's absence, and I felt that a little bit of travel at times did one good.

I hardly know whether it was the fresh sea air during our protracted saunter over the Brighton beach, or that the excellent Allsopp had been even more than ordinarily relished, but any way I confess to having felt unusually comfortable so soon as I was once more at home, and was bundled into my accustomed easy chair by the bright fire. I had already spread before me my favourite studies for holiday snatches, and other leisure moments, so as never to be losing precious time. Before me lay the last Statistical Society issue, with the population increase for the last decade, together with some ingenious calculations as to that for centuries further ahead. There were also some last weekly numbers of *Nature*, with, amongst others, some articles on sunspots and red flames, which I had proposed to dip into till tea time. There was quite a buzz of tea preparation through the room, with the pleasant clatter of cups and saucers. The last sounds that fell distinctly on my ears were the fuffings of the tea-urn, as our Biddy-of-all-work put it upon the table behind me. After that, all my thoughts were galloping off to suns and systems far outside of our poor little earth, of which, none the less, we are ever apt to think so much, although it is truly of the very essence of littleness in the grand comparison.

CHAPTER II.

IT IS INDEED NO OTHER THAN A THOUSAND YEARS HENCE
—A BUSINESS EXPEDITION—HOME AND FOREIGN
TRADING, AND THE HOME TOUR—THE CHIEF HARD-
WARE AND ENERGY DISTRICTS OF OUR DAY.

At our present pace of progress, what will things have come to in a thousand years? May I be there to see.—AUTHOR, chap. i.

Our young friend, after returning home with us from the holiday excursion, was to remain all night, so that we might both start by early morn upon our proposed business tour. But I had been much exercised in mind, ever since our tour had been mooted, about a much more extended scheme of travel; and without being over-communicative on the subject to my wife, I had quietly made, with my trusty foreman Gray, such business arrangements as might allow of a more protracted absence, in case my new plans took effect. The opportunity, indeed, seemed a good one for a bit of travelling adventure, to say nothing of a business turn or two that might also fall in one's way. Travel, in these advanced days, when one could launch off from the confinement of one's

own little world, was something to enlarge the mind, as well as merely to fill the pocket.

Next morning, therefore, while we bent over our small chemical Liebigs, to make ready our simple laboratorial breakfasts before starting, I opened to my companion the project of my more extended travel. My proposal now was to superadd the foreign to the home business tour, and I was delighted with the cordial response given by young Brown, who was evidently, all over, as I have said, a true chip of the old block, and ever ready to jump by preference in the direction of the heaviest profit. Accordingly I sketched out, in the first place, a home business round, to be followed by another round abroad. And, again, as regarded this latter, while we were about it, we would take both the outer and the inner circle of foreign travel, and thus do a good round job once for all.

WHAT TRAVELLING IS IN THESE ADVANCED TIMES.

Let me here, in passing, contrast travel a thousand years ago, and travel now, in this year of grace to which we have arrived, the year 2882. Formerly all travelling was confined to our own little globe, and excepting casual excursions of the most helpless kind in balloons, we could not even lift ourselves off its narrow surface into the surrounding air, let alone getting away into outside space. But now, on the contrary, the air is the ordinary medium of our daily locomotion, as the earth's surface, both above and below, has been long since so crowded with human life, that the old modes either of surface or of under-

ground travel, by rail or otherwise, have been for centuries of necessity abandoned. And again, as to range of travel, we now launch off into the boundless Ether ocean, on visits to adjacent worlds, with hardly more of time, trouble, or expense than were formerly incurred in visiting adjacent countries within our own little planet. What we now call the Home Trade, is the trade within our own small world, while the Foreign Trade is that with worlds outside.

THE CROWD OF OUR MODERN LIFE.

Anon, with our few traps packed up, we are ready to march, and we open the door of our tidy little home, and emerge upon the street. Homes are very small spaces nowadays, when there are such countless millions to be accommodated with them, and thus most of space, other than house-room, gets the general name of street, seeing that the old variety of empty country areas and green fields has long since disappeared. When Brown senior and I, of a half-holiday Saturday, sally forth, in our old accustomed way, to seek the refreshing change of solitude and quiet, instead of the eternal crowd and noise of these endless streets, we have ever to mount farther and farther into the outer realms of thinnest endurable atmosphere, all the lower and denser air-strata being crammed with locomotive humanity. The spectacle we look down upon from aloft, by-the-by, is not unenjoyable, for every one must prefer to see cold space thus genially filled up with the warmth of human life and movement. At the same time, however, as I always say, although it is all pleasant and comfort-

able enough as far as we have as yet gone, and nobody could ever dream of retreating to the smaller things of the past, yet I do often wonder as to the future, and how the additional crowds are to get on, say in another thousand years.

Well, we have now sallied forth, and we watch our opportunity, from our door-step, to merge into line and pass on, tramp, tramp, with the rank and file of the street. This morning we are rather before the high business hours, when the press of passengers is always greatest. There is an understanding that at those times we are to march at a somewhat quicker step, that being of course the only mode by which all the multitude can get accommodated and passed through, each to his different business or other destination. It is really wonderful how pleasantly and comfortably we get on withal. But, as I said before, how will things be in the future at the present pace of progress? How will we all be getting on a thousand years hence?

A SCIENTIFIC EXPERIMENT QUITE IN CHARACTER.

On this subject of the life, warmth, and geniality impressed upon us by such well and comfortably filled space, our philosophers had a curious experiment the other day. Securing for their purpose, through the authorities, one of the public market spaces, which was kept quite empty for their use for some brief minutes, they placed an old lady, blind-folded, in the midst of this wide and unaccustomed solitude, in order to mark the sudden effect of the unexpected position. She, worthy, unsuspecting soul,

proud of being in any way useful to the cause, and exemplifying a confidence in the honour of modern science which is so worthy of these advanced times, had for the occasion resigned herself unreservedly to the experiment. Her bandage being now whipped off by an electric switch, the instantaneous effect of realizing the surrounding solitude, and the fact that she was separated by quite fifty yards of empty space from any human being, sent the poor old lady off into a faint, from which she did not fully recover until partaking of a dose of well-synthesized old cognac from an adjacent laboratory.

But this sort of thing, as I must and will say, may be all very well for science, but for business it is not always so convenient. Both Brown and I, on that morning, found ourselves blocked by this ongoing upon our way to business. Both of us were some precious minutes late, and who knows what early worms both of us missed on that occasion, and in these competitive times too, when one's weather eye can never be safely shut even for a moment?

CABS, CAB-STANDS, AND CAB-TRAVEL.

But to return to the thread of my story, my young friend and I are now making for the nearest cab-stand. We had decided on a cab, even at its higher cost, rather than the huge regular train-omnibus, as the greater speed of a direct course without stoppages was an object to us, and especially to myself, in view of our now enlarged scheme of travel. Cab-stands in old time used to range in long line upon the surface. But when available spaces there began to fail, some

few centuries ago, under the preferent wants and claims of human beings, these useful vehicles were sent up aloft, in perpendicular succession, above our heads, in all sorts of shifty ways possible to their conveniently slight structure, which was mainly of thin extra-tough sheet diamond, until by the grand discovery of the reduplication of the cross-electric, as we shall see further on, the cross-electric current could be made to lift up and suspend material bodies, and thus enable us to have our present far greater convenience of long perpendicular lines of cab-stands, stretching unrestrictedly upwards towards old cloud-land. Thus a whole cab-stand of thousands is upheld at a comparatively small cost of cross-electric energy; while each cab may have an accustomed place on the wire, or, as is found most workable and convenient, cabs are taken from the lowest in regular succession. The cab system nowadays would certainly astonish the quiet old fogies of a thousand years ago.

This particular cab-stand was one of the specials, in which each cab was booked to its own place. Our usual cabby happened to be "at home," and although five hundred feet aloft, unhooked his charge, upon our signalling him by his own electric bell beneath, and was with us in a trice.

We were soon whizzing through the air, and at a height and speed proportioned to the distance of our journey. The rules of the road, in air travel, have gradually become of necessity more and more strict; and it is alike creditable and wonderful, through this extreme care, how few accidents, comparatively speaking at least, do occur. They do occur at times, however; and most ugly and uncomfortable things they

are, and a precious mess they make, when some thousands of splinters, alike of cabs, train-busses, or human bodies, bundle down, all in some unexpected moment, upon the full tide of countless humanity beneath. This is certainly one of the disadvantages of our modern circumstances and superiorities, and of all that dense population of whose powers of progress we are so proud. But, after all, it is marvellous how little all these disasters to the few disturb us, the surviving many. The wreckage of such occasional catastrophes is promptly removed, the gaps it makes filled up on the instant, and so the daily tide rolls on imperturbably as before.

As we loll comfortably on our cab sofa, we are not unimpressed with the dignity of even our friend Cabbie in these days of advanced science. There he sits at his ease in front of us, a model of well-practised skill, and mind-master of the situation, as he perfectly regulates the speed-energy, looks to his guiding comparative-altitude barometer for his exact level, and pilots his little ship withal through countless colliding dangers of the crowded scene. We could see, too, that he was using, as his locomotive power, a portion of the little Leyden accumulator which, on starting, we had paid to him as his fare. This is not uncommon—is indeed the practice, at least with cabbies, who either don't possess much means, or don't carry their capital about them, or may have permanently invested their spare cash. This leads me into saying a word or two upon—

OUR MODERN MONEY.

Dealers and traders in Energy : our money itself would someday be Energy.—AUTHOR, chap. i.

A thousand years ago, for instance—and, by the way, I am somehow always on the trot back to that particular time—we used gold and silver for money. But afterwards we extricated our currency from that coarse and troublesome, special and costly kind of circulating medium, and substituted in its place our universal trading article, Energy, which was thus alternately, at the holder's option, either money for exchange and value-measuring purposes, or ready available force for current business use. This Money-Energy was conveniently intensified or accumulated into small Leydens, having much the appearance of school-boys' marbles, only of much lighter weight. We still keep up those old names of a thousand years ago, such as the Leyden jar for electric accumulation, and the Liebig for the chemical apparatus, by which the organic is created out of the inorganic, and our food supplies obtained by far prompter and more direct ways than the old slow-coach, circuitous and exploded ways of natural growth. These names, Leydens and Liebigs, are still indeed the same, but otherwise how much all is changed, and how different now are our advanced processes and results !

Our money basis, then, is Energy : and we have two kinds of money—namely, that of account, which is decimally dealt with, and represented by paper ; and that of action, or the intrinsic money, which is the Energy itself, ready for use as either money or

merchandise, and which is counted, not decimally, but chiefly by multiples. Thus when we paid our cabbie, as his fare, a ten-energy piece, we saw that he discharged half of its force into his cab machinery. This E10 piece of money was thus reduced to a E5, and the next application to action would reduce it to a E2·5, and so on. But cabbie had calculated upon the first submultiple as sufficient to accomplish his whole journey. Yes, and, as we also noticed, it actually did so, thus clearing, out of our pockets, one hundred per cent. profit to Mr. Cabbie. I only wish, thought I at the time, that certain other business I could name would pay but half or one-fourth as well. But, to conclude our money exposition, we can always tell the intensity of charge in these Leyden money-pieces by the colour. From old association our highest money-piece of that kind, that of a thousand Energy, is made to have a yellow or golden hue, while the E500, the E250, and so on, have other distinct hues, all being respectively the result of specially prepared chemico-electric relationship. Of course the decimal-counting notes go up to sums very much higher than such a puny amount for those days as (E1000) a thousand Energy. When we thus slid our money off metals on to Energy, we reckoned roundly that our Energy unit (E1) was equal to the old superseded dollar. There have been increasing facilities of Energy supply since, but also, on the other hand, such increasing demand, that the relative value has been fairly upheld. It may be readily understood that our Energy Mint is an institution at constant work, and that this monetary system gives us marvellous facilities, as compared with the barbarous and helpless old times of mere metallic money.

OUR FIRST BUSINESS DESTINATION.

Our first business stage was the famous Atalanta, situated about the centre of what was once the old Atlantic Ocean, and now usually called the Birmingham of the world, on account of its vast hardware and energy factories. We have already filled up, let me here say, all our Atlantic, Pacific, and other old oceans, excepting certain great main lines, or broad canals, embracing the deeper sections, which still remain for sanitary considerations and purposes. How long future centuries, and future myriads of increasing humanity, will yet spare such watery spaces, I am not prepared to say. But, besides the sanitarian case, they afford in the mean time a picturesque aspect as seen from where we now are above, so far at least as any one at our considerable elevation can see through all the succession of layers of travel apparatus between us and the ground.

Of course, owing to all this travel-filled air, only a very reduced sunlight now reaches the earth's surface. But this is not of so much consequence nowadays, for several reasons. First, then, having mopped up nearly all the ocean waters, we are but little troubled with clouds or rain to diminish any of the light which the sun does send to us. Next, we have electric light everywhere available when wanted to supplement that of the sun, and to give us besides the purer light of the two, considering the well-known yellowish tint of our luminary, of which more further on; besides that, as we now perfectly separate heat from light, we can so much the more

cheaply and conveniently indulge in the latter, while entirely free from the other when not for the time and occasion wanted. And, again, most of our life is now subterranean, the world's outer surface being already utterly inadequate in area for more than a fraction of the crowd of present human life; while throughout this vast subterranean we have imitation suns which, for all practical purposes, are quite as good as the one original article outside, together with atmospheres free from all the said noise and light-obscuration of upper surface life. So you may see that this outside surface life has, after all, its disadvantages as well as its attractions, and it is by no means much preferred by most people, house rents being just as stiff almost, down even to third and fourth subterranean stages, as upon the uppermost or even the outside level.

SUBTERRANEAN LIFE, AND THE "SUB" SYSTEM.

We arrived safely at Atalanta, and just about the usual early dinner hour, as we had planned, in order to catch our friends more at their leisure. This is an old business trick of making such business leisure out of the dinner hour. But if this be reprehensible, we have, on the other hand, kept to, or come back to, simpler ways in both food and dress in these busy modern times; for how else can we get through all we have to do in the science and progress of the time? The particular spot of our destination is the main entrance to the Atalanta Great Consolidated Subterranean. This vast concern is usually called, in stock-exchange abbreviation, the Great Consols Sub, and

the place has a history which is not unworthy of our now glancing at.

The Sub-system, to use the smart business phraseology, commenced centuries ago, and even long before it became, from sheer want of surface-room, the absolute necessity it is now. Companies were, long since, got up, to excavate underground abodes, which by the natural increase of heat as you descended, conducted people at once to temperate, semi-tropical, and tropical regions, without any of the trouble, cost, or danger of thousands of miles' journeys. Thoroughly healthful ventilation was easily devised, and what with bright electric light, and artificially imitated tropical scenery, these subterranean abodes came to be quite the rage of the time, especially with invalids and the superannuated, who thus escaped at will all the ceaseless thunder of business and progress upstairs.

THE STOCK-EXCHANGE OF THESE DAYS—RISE AND PROGRESS OF THE GREAT BULLINGS.

Brown and I often heard of the bulling and bearing of the Stock Exchange, but we never risked our money.—AUTHOR, chap. i.

But later on, when the sub-system had become a necessity of our crowded life, it was conducted more systematically. The whole land surface became by degrees literally honey-combed with sub-life, and tier was added to tier in the progressively downward excavation, as the ever-increasing numbers of human beings demanded more and more standing-room and house-room. These business sub-interests became

at last such a countless throng, as to defy all stock-exchange ingenuity in exhibiting severally their conditions, their prospects, and their dividends; and it was just at the height of this emergency, and when the difficulty had become intolerable, that a great genius arose upon the troubled scene for the relief of the choked market.

This was no other than Bullings, the great stock-broking promoter, who originated the fertile modern idea of Consolidation, in gathering up the countless separately existing subs into comparatively few great consolidated interests; and who first successfully applied, as though by magic, his amalgamating hand to a thousand adjacent but distinct and separate subs in Atalanta. The huge additional capital of the new concern, which was still, by economy of consolidated management, to pay on the consolidated total much more dividend than before, and the adroitness with which he dealt with—aye, and pacified—almost countless superseded directors, who, with embarrassing but irresistible compliment to Bullings himself, persisted in valuing their seats, not by the small realities of the past, but by those grand prospects of the future which their own timely sacrifice of resignation rendered attainable, raised Bullings' reputation to unprecedented height, and surrounded him with quite a legion of eager speculators, who hung upon every glance and sign and word of the great man. I, too, and Brown as well, tried at times to get a wrinkle out of Bullings, so as to guide us to a premium or two. But the fellow, unless he scented the large order, had ever a dodging way of looking through you, instead of at you, and of seeming to be always so distressingly

cut of breath with the load of cares and profits he had constantly in his head, that it seemed positive cruelty to take up his precious time with your comparatively insignificant matters.

This was not Bulling's only great hit. He had encountered one earlier chance of fortune, during the last great mania for Finance, Discount, Loan and Universal Accommodation Companies. These had become so numerous at last, that a good, suitable, or popularity-catching name became the chief difficulty for the new concerns. As one grand resource in this way, of course, every point of the compass had been early seized upon in succession, and a separate company duly floated off upon each. Thus there was the Northern, the Western, the North-western, and so on; but, curiously enough, no mind had been original and comprehensive enough to think of the collective compass itself. A rival promoter called Foddles had indeed bethought himself of the half points; and, when he launched the Nor'-half-west Company, boundless fortune seemed, for a brief instant, at his feet; for he had precautionarily patented the whole fractional succession. But it was only for an instant. The thing in that particular direction had already been run to seed, and so poor Foddles disappeared, overwhelmed in preliminary expenses. The genius of Bullings dawned opportunely at this critical stage. He came down upon the astonished market with the Whole Compass, Finance, Discount, Loan and Universal Accommodation Company, Unlimited, and he floated it successfully with a capital fully proportioned to the expansive dignity of the title.

But the premiums, great as they were, which Bullings was known to have harvested from this preceding concern were absolutely as nothing to what seemed now in prospect from his grand sub-consolidation scheme. He was of the boldest among speculators, and the amount of stock he contrived to hold, by aid of loans and contangoes, in support of his own market, was the marvel of the day. Of course, on the rising market this was all profit multiplying profit. His great opponents were the Bears Brothers, who were as speculatively bold in selling and depreciating his stock, as Bullings himself was in buying and buoying it up. But hitherto Bullings had routed the Bears in every direction along the whole line of battle.

CHAPTER III.

LIFE AND BUSINESS IN THE TWENTY-NINTH CENTURY.

In these times we should be filling up seas and excavating successive surfaces beneath our feet.—AUTHOR, chap. i.

Our laboratories, said Black, would turn out a savoury beefsteak as readily as an acid or an alkali.—AUTHOR, *ibid.*

A GREAT SUBTERRANEAN ABODE.

WE now stood at the main entrance to Bullings' first triumph of its kind, the Great Consolidated Sub, and we had fortunately a spare moment to admire the splendid and accurate machinery of the lift, which goes self-actionally up and down night and day incessantly. We are to bear in mind that, in the descent here, there are five successive inhabited floors, and millions of human occupants beneath. The lift is entirely self-acting, and is worked as part of the general Energy contract, by which the whole consolidation is supplied with its sunlight, its general meteorologies, and all the other force or energy requisites. At a signal given, all of us in waiting at the moment step into the receiving-box or apartment, which is then slid into the descending lift, and down we at once glide.

Our own destination, like that of the large group in whose company we now stood, was the third stage. We pass in rapid succession the first and second floors, where the respective passengers have been duly again slid off, while fresh passengers, waiting on each landing to go downwards, took their places; the descending and ascending machinery, meanwhile, never stopping in the endless process. A brief minute has brought us to the third stage, where we are shunted off with the usual prompt facility, giving our place to the other crowd in waiting to go further down, while those going upwards are taken in with the reversion movement on the other side.

These stages or floors are most commonly of five hundred feet interval. A sky of about that elevation is considered to give a fairly natural effect over one or two or a few square miles of subjacent dwellings. Some rather second-class subs, in the economizing of space, have brought down their sky even to two hundred and fifty feet, and rents are there, of course, much cheaper. But there is an uncomfortable and quite an artificial effect about such low quarters, which puts them quite out of fashion, although keen business men will stand anything in that way that reduces expenses in these competitive times. But, again, space is in short supply all round; and the dimensions of our apartments and homes in these days—cribbed, cabined, and confined, as we must all more or less be—are something of the narrowest. Fortunately, however, in this progressive emergency, the general sentiment is averse to a cold dreary surrounding of empty space. We should now feel utterly desolate and lost in the huge bedrooms and sitting-

rooms of a thousand years ago, more especially as ventilation questions are now all disposed of by our carbon-absorbents, and other self-acting maintainants of atmospheric purity.

A SUBTERRANEAN LANDSCAPE.

The elegant platform of the third stage, on which we had just been landed, belongs to four separate towns or districts, each being a great square, all filled with a busy multitude, and each communicating in common, at the four conjoining angles, with the common lift. Each of these separate subs had a handsome entrance gateway, and we at once entered the one in particular to which our introductions directed us. Here a pleasant and varied landscape confronted us. Although, as I have said, natural green fields and such-like have been long banished from our earth, yet that does not necessarily prevent the most select and beautiful artificial and imitation substitutes. And so a pretty gurgling stream of pure water first saluted our eye, and ran, sparkling in the bright mid-day sunshine, and coursing and tumbling through the entire area, as though we had got back to the old Scotch Highlands. The narrow bank on either side the stream, with its pretty winding walk, had still room for the most brilliant tropical vegetation, whose great expanding leaves spread a grateful shelter, and whose fragrant perfume was already in our nostrils as we crossed the entrance gateway.

In these advanced times, let us here remark, all this resplendent scenery of apparent vegetation is rapidly and cheaply woven out of parti-coloured glass

tissue, and is, in fact, everlasting. There is thus, of course, an enormous advantage over the periodical decay, and the sere and yellow leaf of mere nature. And, again, as to the fragrance question, old botanical descriptions tell us that often the most showy plants and flowers have little or no smell, or even an unpleasant odour. Why repeat such defects by exactly imitating nature! On the contrary, we impart the most delicious perfumes, and keep them exhaling, at our option, night and day, summer and winter. In the same free and excelsior spirit, we have not strictly limited ourselves to nature's exact forms. We enslaved ourselves at first by a needless fidelity of that narrow kind, searching through countless varieties of natural form, modern or fossil, for such as most took our fancy. But now we give free play to imagination in all that matter, always remembering that imagination and its cravings are a part of our nature as much as anything else, and mostly, too, by far the pleasanter part of it.

Then, again, the water, that delightful set-off to the whole landscape, may be either manufactured in each sub, according to its own wants, or may form part of the general energy contract. The water-facture interest is, of course, a great concern of these times, since the old system of seas, rivers, and natural supplies has all passed away. The fine rock-scenery that usually characterises water-factories, and is so pleasing to the eye, is simply the spare store of water, kept in the cross-electrified solid oxyhydrogen form, ready to dissolve into pure water on the application of the cross-electric. All our countless modern dwellings are now as amply, and far more regularly and

methodically supplied with this indispensable article, than in the old days of nature-made water. We must here remember Science's declaration that nothing is ever lost; so that all materials, whether those of water or anything else, after coursing through countless human bodies, ever come back to the factories to be fabricated afresh for their life-supporting purposes, and to be sent coursing about as before upon their everlasting mission.

THE HARDWARE AND ENERGY TRADE IN A.D. 2882.

Our chief introduction was to the great man himself who contracted for this whole sub-system, and whose vast energy stores were mostly placed in this third level of the main shaft of the great system he controlled and supplied. We found our man, as we had expected, enjoying a little leisure and reflection after his early dinner. He was quietly whiffing his cigarette—not, however, of the dirty and hurtful tobacco of a thousand years ago, but of some one or other of the harmless pungencies people nowadays use instead—as though he had not at the moment one single care in the world, when, not an hour before, he was buried deep in the wants of a thousand great societies, and was presently once more to resume his duties. He had just time remaining to show us over his works. These vast energy-accumulations and capacities, consisting partly of successive rows of excess-charged Leydens, convertible instantaneously into current energy, but chiefly in form of conducting-wires from the earth's hot interior lower down, with their apparatus for energy conversion, all occupied, as we

noticed, marvellously small space. We were most struck by the chief "main," through which the great electric stream was carried, to feed all the thousand suns of the system, and which emitted, with an ominous force and rapidity, the whirr so peculiar to the cross-electric current. Connected with all this machinery of wires and other apparatus, there is, of course, a vast hardware and iron business.

Presently our new friend took his business seat once more at his desk, surrounded by the representative conductors of all the different communities he catered for. These were each indicated by small knobs ranged in semicircle in front of him, the knob starting outwards, with a peculiar noise by way of signal, when anything had gone wrong or happened to be wanted, in the sub which it represented. After watching and admiring the wonders of the system for a few minutes, we bid our now busy friend adieu, and after some few other but less important calls, we again took cab for our next destination.

This was Old California, as it is still called, and our chief object was to establish an agency for timely securing, and in direct course, some share in the vast energy supplies resulting from the occasional earthquake visitations to which that country was still, as of yore, subject. But now these once terrible incidents, instead of playing havoc with helpless property, as was the case a thousand years ago, are, by timely notice, foreseeing preparation, and the prompt convertibility of force, made the source of vast wealth to the population. On such happy and welcome occasions of unusual supply, the price of energy, in the over-

loaded market of the place, falls so considerably just for the time, as to afford a good opportunity for laying in a large stock at a materially reduced price. But to those outside and far off, this is only to be done by means of direct local agency and instant action, and for all this, I am glad to say, my young friend satisfactorily arranged.

A GLANCE ALSO AT THE PROVISION TRADE, AND THE WORLD'S GREAT FOOD QUESTION.

Having finished so satisfactorily my young companion's business, I next put in for a turn at my own; and so, upon our homeward track, we alighted at Old Cincinnati, a place which still conspicuously commanded the world's pork and ham provision trade. But on what an infinitely greater scale after ten centuries, and in what a different style from modern laboratorial resources, so much prompter and cheaper, more cleanly and convenient, than by the slow old processes of natural growth in the superseded prairie or pigsty. I made here, for my own account, some advantageous direct arrangements. It is indeed wonderful how some one place will command a permanent supremacy over all others in certain fabrications; and in nothing is this more remarkable than in our great provision trade. In the mere application, for instance, of artificial essences, in order to imitate the mellowing of time in such meat manufacture, without incurring time's heavy cost in interest of money, this place would hold the lead in the great ham trade, in spite of all expenses of carriage and agency.

Whilst we are now sailing homewards, after the satisfactory completion of our home business tour, let me say a few words on the past, present, and future of the great provision trade, that trade which has been in our honoured family for a full thousand years, and which, I flatter myself, I not only thoroughly understand, but which I have, in my day and turn, helped to advance and extend, until my worthy old ancestor of these ten centuries retrospect, who began it, could hardly by possibility recognize even one single feature of its modern aspect.

RETROSPECTIVE VIEW OF THE TRADE.

Going back, then, these ten centuries, we find the world's surface still only very partially occupied by man; so that it was not until two or three centuries nearer to our own crowded time that increasing population began really to jeopardize the usual modes of the old food-supply, by threatening to require, for mere human elbow-room, all the surface space previously required and devoted to natural food-raising. But all this time the steady progress in chemistry had been carrying us more or less into laboratorial organic production, so that certain articles, usable as food, began to stream steadily forth from the laboratory into the provision market. These articles at first were not much relished, or found to be particularly savoury, their raw new sawdusty sort of flavour keeping them from many a table, although, as I firmly believe, and looking to after experience, mere prejudice had much to say in the matter. But, however this may have been, the battle had not gone on very long, between

our necessities on the one hand, and our tastes or preferences on the other, when we were overtaken by the grand discovery of the cross-electric, and thenceforward the mere food question is for all time definitively solved. We had now ascertained that whereas, by simple electricity, we have only the first organizing step, namely, crystallization, by the cross-electric we complete the molecular of the organic structure. That step of progress did not indeed enable us to impart life to this organic structure, a result involving a still higher electric intensity which, if attainable, was still unattained; but, in imitation of life-action, we can facture organic substance, giving to it all the aspect and nutritious quality of the live and nature-made article.

Thus, as I have said, the mere bodily food question was solved. But hardly were we relieved of fears on this account, ere we were being plunged into others not one whit less alarming, namely, as to the brain supply—the food for the material instruments of the mind. We were then, in fact, just entering upon the grand modern battle of the phosphate supply. The great old philosopher Oke, as far back as nearly eleven centuries, had said, and with solemn emphasis and warning, “No phosphorus, no mind.” Although no longer concerned as to adequate food supply for our bodies, we are thus seriously concerned indeed as to how far the apparently rather limited phosphorus supply in the world may prove adequate for all the brains that are, in ever-increasing ratio, brought into being.

VALUE AND RESOURCE OF THE DEAD TO THE LIVING.

But this question has long lost much of its sharp edge of urgency, since we, in all good common sense, fell back upon the grand and perennial supply, which nature provides at our very door, namely, our own dead. What so fitting and proper as that the dead, when done with all the good things they possessed and used while in life, should render them up to the needs of the living whom they leave struggling behind them. Thus the brains and bones of our departed friends, with all their contained phosphates, form no small part of any wealth which our dead may leave us. If your friend or relative leave you no other property, yet in leaving you heir to his material self, you could still cherish his memory in the good things cleared out of the legacy.

The disposal of our dead was long previously a troublesome question, until we had adopted the enlightened and economic practice now prevalent. When the increase of people forbade any longer to poison our soil by burial of the dead, we resorted to cremation. But with still further increase the air, too, under the cremation resource, began to be injuriously overcharged. At length we found that what had heretofore seemed our most troublesome enemy was in reality our best friend. Indeed the phosphate market is not now the only one benefited by the precious dead. We shall see that the question directly touches also that of the food supply; for after we have gone far enough in chemical analysis to dehumanize the structure, why not avail of any still

undissolved natural organism, the natural, as every experienced gourmet knows, having a relish hardly impartable to the mere fundamentally laboratorial product. But as to all this, what, in goodness' name, would my venerable ancestor aforesaid have thought, if he could have foreseen his far-off descendant, a thousand years on, dealing in such articles, as part of his stock in trade in the great provision line !

Necessity and, as I have said, good common sense have now settled our practice as to disposal of the dead. Public law enjoins that they be disposed of to the best advantage for the benefit of the living. We can't bury them ; we can't burn them ; what are we to do with them ? Why simply this, that we sell them, and to the highest bidder, because he is presumably the party most likely to put them to the promptest and fullest use. The funeral, and all that is dolorous, end, in fact, at the public auction mart, where cheerful competition and business begins, and where the lot is at once cleared off. The miscellaneous buyer is ever solemnly enjoined, even in his contract note, to cut and carve with all due reverence ; and a large and ready charity hopes that he always does so. If bereaved and sorrowing friends are tempted, in the first excesses of grief, to buy-in the body, they soon experience no end of inconvenience and bother with the suspicious sanitary authorities, ever on the scent at such intermeddling, lest an unwholesome nuisance should be created in the neighbourhood. Thus all find it best, with their dead, to acquiesce in the regular routine, and to have their solid consolation in the pecuniary proceeds from the public roup.

And indeed, when the mind has once quitted its

temporary material abode, what more is that deserted tenement, either to its former occupant, or to other people, than any other edifice that a tenant may have occupied and quitted! If there is any one mortal thing I despise and detest more than another, it is cant about this very question; and I must admit that, with all our boasted progress, we are not yet quite free of it at times, even in such an everyday phase of our life and business. There are, however, some odd encounters on occasions. For instance, when Brown's step-grandmother died not long ago—a remarkably old and portly lady, who had accumulatively secured her own goodly share of phosphates and other valuables in the chemico-provision line—I was not by any means the only one bent upon a lot so decidedly over-average. In fact, I had had my eye, preparatorily, on the old lady for some time. Not that I—I ever—even for one moment—of course not—the thing is absurd. I had the greatest respect for her. But, really, the sad event being, of course, an ever nearing certainty, unless one's weather eye is always open in these business days of merciless competition, one inevitably goes to the wall. In short, I was resolved upon the lot, and got it, and handsomely indeed it cut up for me all round. I rather wondered at Brown's timid bidding, with all his ascertaining opportunities. But I refrained from vexing him about my profits. And, again, what an odd conjuncture for friend Brown, if he should be smacking his lips, some day, over a chop at the public luncheon bar, direct from the component atoms of the old lady!

This latter remark brings me to what is by no

means the least important section of the difficulties, the responsibilities, and, I may add, the respectabilities concerned in the modern provision trade. As I have already hinted, our respected dead are more to us, whom they leave sorrowing behind, than phosphate supply only, all-important as that may be. They are, in fact, valuable masses of natural organism, ready-made and cost-free to society's hand; and the only question is, how far must chemical analysis proceed to entirely dehumanize the subject, without, at the same time, needlessly destroying and wasting natural molecular structure, and the inimitable superiority of the mellowing flavour that comes of it. We call the complete analysis the Atomic, reducing, as it does, all previous structure to the ultimate atoms. The less complete we call the Molecular; and the great question ever is, how far this needs to go. Even the most accurate and precise chemists find some debatable area; and this area is ever a trouble to the respectable and conscientious of the trade, who are perpetually tantalized by seeing, only too clearly before them, the superior profits of supermolecule, and of every step short-taken towards the ultimate atom. It is, alas, but too well known that there is a class of restaurants where the supermolecule is only too loosely guarded, and where unscrupulous gourmets stream in incessantly, paying freely the extra prices demanded, and asking no questions.

CHAPTER IV.

OUR FOREIGN BUSINESS TOUR—THE OUTER CIRCUIT.

Outside the world altogether, as White predicted, voyaging far and away upon the Ether-ocean.—AUTHOR, chap. i.

YOUNG Brown and I had completed our home tour, and were safely back again within forty-eight hours. Time is money in these busy days. But the next section of our business tour is not quite so promptly despatched. We were now, in short, to get ready for the foreign tour, and I had certain plans of my own in regard to it, which I must here allude to. First, we would begin with the outer circuit. In taking, lastly, the inner circuit, I must needs gratify an old ambition I have indulged to visit the sun. That was still a difficult, nay, even a dangerous voyage, and, consequently, I never could get my wife's consent to embark upon it, even although I held out the prospects of solid profits in Helium exchanges and other solar trading. The fact is, that the reputed danger constituted still the protection of the solar trade, while that of the planets, the more adjacent of them particularly, was already ground down to the very smallest return, by universal competition, that bane of all modern business.

MY VARIOUS PLANS AND PROJECTS OF TRAVEL.

I meant, in fact, on this opportune occasion, to slip off quietly without fully apprising my old lady of my whole intentions—blessings on her anxious but warm heart! I had now, in fact, quite a host of projects in view, in taking advantage, to the full, of the convenient excuse I had armed myself with, of escorting our young friend, in whom both wife and self were now so equally interested. First, then, young Brown and I would take the outer circuit by ourselves, making Mars our first stage; and, after a visit to the First Jovian (to use our smart commercial phrase for Jupiter's first moon), returning home by way of one or two of the larger planetoids circulating between Jupiter and Mars. That would comprise our outer circuit, and would embrace the chief fields of interplanetary trading as yet in that direction, Jupiter's further moons being too little advanced in organic life for trading purposes, while Saturn's system involves, besides even a still more backward lunar condition, the time and cost of a much greater travel distance.

Next, as to the inner circuit, I meant to bribe old Brown to accompany us. My special object was to have his company and counsel, shrewd old business head as he had on his shoulders, in my proposed solar visit. The relative positions of the inner planets, about the time of our proposed journey, would enable us best to take Venus and Vulcan outwards, touching at Mercury on our way back. Our young friend's business projects took him with us as far only as Vulcan, where we proposed to leave him, old Brown

and I going onwards to the sun, and the party re-joining at Mercury, *en route* homewards. And, lastly, I had made sure that our distinguished friend, White, was to take personal charge, on this particular occasion, of his splendid solar liner, which was to go in its turn at the time about which we had calculated to be ready.

Let me here allude for a moment to my excellent and intimate old friend White, whose nautical genius had now raised him to the highest position in the great ether-ocean navigation of our day. He is, in fact, at the head of the great companies and chief fleets of shipping for both the outer and the inner circuit. And advanced though he now is in years, yet the fire of youth still smoulders within the old tar. Still, he assumes the helm on special or great occasions, and this was one of these, in consideration of some of the company. I rather flattered myself that my being of the party had its weight to stimulate the redoubted old navigator into action, to say nothing of any additional weight in friend Brown. I had a good joke with both about keeping the matter quiet to my wife.

A BARGAIN WITH OLD BROWN.

Brown was not a bird so easily caught. He was much more of a stay-at-home than either White or myself. I had to make a solid bargain with the chary old chap, and here was the way I got over him. Besides the prospect of some profitable jobbing in solar wares, a book of our solar adventures was to be written, and Brown was to have full half profits.

Brown had a profound idea of my powers of pen. He would even say, contented mortal that he was, that this was one thing about which he grievously envied me. Consequently, I was to engage to do all the writing. But as I knew the fellow to be a shrewd common-sense observer of things in general, and in a business way in particular, I reckoned on Brown for endless padding to our projected volume. Thus I bribed him for his very acceptable company, reckoning the while that as much as I gave I would get out of him somehow in return.

A GLIMPSE OF THE GREAT BULLINGS OF THE STOCK EXCHANGE.

Passing the Stock Exchange vicinities one day during my preparations, I just contrived to get once more a sight of Bullings. Fain would I have interviewed the great man of the place and the day; but surrounded as he was by many others bent on the like mission, and in face of the wary old fellow's practised adroitness in not wasting his time over the smaller to the sacrifice of the larger orders, a mere casual in that line like myself had no chance. The boldness and luck of the man were astounding, and filled people's minds with admiring awe. He was said to be at that very moment deep in a huge speculation, to buoy up still further the already extraordinary premium of the Great Consols Sub stock, and to have everywhere routed his ever-dogging enemies the Bears. His contangoes and carry-overs, and his borrowings, in general on the smallest margins, were upon a scale as unprecedented as was the fortune

which he was thus enabled, by anticipation, on balance, already to call his own.

YET ONE MORE OF MY PROJECTS.

Young Brown and I had booked our passages for Mars in one of White's regular mail liners. There is already a large business done by our earth with that little but active neighbour of ours, whose people, although with some odd and peculiar ways, which I shall have presently to allude to, get on with us very fairly. There is already also a wonderful bustle of shipping. By White's kind help I secured very comfortable berths, and I had, in my own case at least, a special object in so doing, in connection with yet another design in these travels. There must, after all, be something in Brown's notion of my turn for the pen, as that potent implement is ever in my hand upon any leisure occasion. And now with well on to a whole week before me as we voyaged to Mars, I was ready to enter upon an old project—no less than that of sketching out a retrospective history of the last thousand years. I am often wondering what is to be the state of things in and about our world a thousand years hence; but there is much interest, and a good deal more of reality, in ascertaining and comparing the changes of the like interval just passed. Such, then, is the vocation I propose for myself during the interval of leisure in crossing inter-Marsian space, and the still more considerable spaces that are to follow; and, as I have revolved the subject for many a past day, I am now quite ready to fall to work.

OFF TO MARS.

There was a goodly throng of passengers. Mars was not quite at his nearest to us just at this time, so as to give us the shortest possible voyage, but he was approaching that relative point as between his orbit and ours, and consequently the usual busy season of Marsian intercourse had set in. Of course it is at such times of the relative approach of the two worlds that there is most intercommunication. The greatly longer voyage at other times is usually too costly, both in time and money, for most traders and passengers. Keen business competition in these days keeps us to close calculations and all possible economies in this way. Young Brown and I amused ourselves for a few spare minutes in watching the scientific preparations for departure; the former, however, intermingling a business view of the case, as he was interested in certain late improvements in the more accurate projection of the protective cross-electric lines to be thrown out towards Mars, alike to guide our direction, and to indicate, warn and shelter us as to meteoric dangers.

VOYAGING INCIDENTS, SAFEGUARDS, AND ACCOMMODATIONS.

Away we go. There is at first a constant racket and bustle as we thread our path through the travelling throng which, passing by us in all directions, occupies our lower atmosphere. Even when we had got above and outside the denser mass of all this

locomotive life, and could then, of course, much accelerate our speed, there was still some noise in the mere rapid cleaving of the air, greatly attenuated although it now began to be. Soon, however, we cleared these very outermost limits of our planet, and entered upon the perfect peace of purely ethereal space. Many have written, poetically, ardently, and otherwise, on this subject, and upon the marked and extraordinary change of the traveller's surroundings. For my part, reducing all that sort of thing to the common sense of a business view, I find the striking change in question both useful and agreeable. One gets back all the fresher to one's office, with renovated powers for work, after such outside trips to a neighbouring planet, or even the short crossing to our moon.

Some of our party still found amusement in watching our earth, as we now rapidly receded from it. Of course, half a century ago, when our illustrious Black first discovered, by help of the reduplication of the cross-electric, the means of our material locomotion in outside space, all such sights were novelties and marvels. But, now that habit has blunted the edge of that sort of thing, and business pervades its every corner, we leave this every-day sight-seeing to our school-boys, or to those high poetic flights which can make mental food out of any mortal thing, common or uncommon, in either earth or heaven.

We are not, on this occasion, in the very fastest express, otherwise we should do our distance in somewhat less than the five days we expect to occupy. But having use for the extra time, in view of my literary efforts, I the less grudge it. The cheaper

fare, too, of our present mixed goods and passenger mail train was not altogether out of calculation, the higher speeds of the solely passenger expresses requiring more costly management and apparatus, and being thus altogether more expensive. After a good dinner on board, which is given in fair style, considering the narrow and elongated quarters stewards have to deal with in ether-ocean shipping, I retreat to my own quarters and prepare to begin my labours. But before that, I must needs allow myself just one parting glance at our cross-electric protective panoply. It surrounds us like a light but mysterious auroral mist, to protect from meteorite impact and from other space-filling dangers our slight and fragile craft. All seeming in order there, imparting a comfortable security, I take, ere turning in, just one last fond look of our retreating earth, already dwarfed by half a million miles interval, and already also somewhat out of line with our direction, through the progress meanwhile in her own orbit, as she rolls everlastingly along her grand circumsolar highway.

Let me here also glance at our accommodations, and our other navigation arrangements in general, all of which would have much amazed and perplexed our travelling forefathers of a thousand years ago. Our main cabin is, of course, perfectly air-tight; and the air-supply, at the accustomed degree of pressure, is maintained in constant purity and fulness of supply by the anticarbonic rectifiers and the oxygen reserves. But if we want perfect quiet—which was, for example, an object with myself in view of my prospective studies—we can at once completely void our little separate airtight berths, and thus, freed from sound-

conveying air, sit when we choose in the silence of very death. And this void or vacuum we usually make, not by the wasteful method of rushing out all the elastic precious breathing element, by the discharge-tap into space, but by the almost equally prompt cross-electric solidification of the air components, which are thus made handy, in small cakes or bars on the shelf, ready to be reconverted into air at will as required. We have also convenient dress and other arrangements by which we pass and repass between the main cabin and these small separate berths, without permitting air into the desired vacuum. And again, when sitting in the vacuum, in the absence of accustomed air-pressure, we substitute for our outer man a certain pressure of elastic clothing, while the inner is regulated by the separate breathing apparatus. Every passenger is precautionarily supplied with this separate and independent apparatus, in case of any unforeseen fracture, either from within or from without, by which all our cabin air-supply might suddenly vanish like a whiff of smoke.

Practice, as well as necessity, makes us wonderfully efficient in all these complex artificial arrangements of our advanced modern civilized and scientific life. I soon got to be quite charmed with this perfect quiet of vacuum, which was often, in fact, of a very striking character—as when groups of passengers, only a few inches away from me, and separated only by the thinnest of sheet-diamond partition, would seem to be carrying on a perfectly mute show of animated talk or still more animated laughter; and I was presently making very fair progress with my projected historical retrospect.

CHAPTER V.

A RETROSPECT OF A THOUSAND YEARS.

Progress, what is it? "In effect," said Yellowly, "the suiting and smoothing of life's way to the great and struggling masses."—AUTHOR, chap. i.

WHAT plan should I adopt with my proposed retrospective history? How should I best record the vast progress effected by our busy humanity in the past thousand years? It occurred to me that I would, first of all, lay before the reader a few special causes which markedly contributed to that wonderful progress. They were causes which, in most cases, began to come into operation about the time my retrospect begins, namely towards the end of the nineteenth and the opening of the twentieth century. I attach therefore great importance to that particular time; and no doubt that is why it is, curiously enough, always somehow so much more in my mind than any other of my retrospect. Some of these causes—as, for instance, the resolution of the State to see to the universal education of the people; the inclusion, also, of technical and scientific education; the complete removal, by a method presently to be noticed, of the parliamentary block of public business; the abolition of international

war, and of the national waste of a professional soldiery; and, more perhaps than aught else, the rapid healthy increase of intelligent people, under the gradual but steady solution of the food question, together with the fact that the head and hand of woman, when she had secured all her rights, were in their various ways as active for progress as those of the man,—had altogether a most powerful and quite unprecedented after-effect on the advance and well-being of our people. After a brief sketch of each of the more prominent of these various causes, I purpose to take the general progress century by century. I shall first attend mainly to that of our own country and people, until the time when our previously separate national interests have merged finally into that of the whole advancing world at large. We enter upon this great change with the last half of our retrospect; after which we have to deal with that entire world which then began to assume its present grand aspect of one homogeneous society and substantially of one speech.

Let me here parenthetically remark, that it is indeed only from old association, and from the additional circumstance that both my residence and my business location are still in the old ancestral quarters of a good thousand years ago, that I find myself still keeping up the exploded anomaly of speaking and thinking of my people and my country, as though these were a still existing distinction in the world. "Old England" has now finally disappeared from the earth, alike in her distinctive nationality, as in her physical islandic outlines of once familiar sea-coast and scenery. In the contest of races which

has been going actively on for the most part of the past thousand years, and in "the survival of the fittest," we English, along with the races kindred to us, have everywhere carried the day, and everywhere all others have been crowded off the world's too narrow surface. The French and German tongues, the Russian and Chinese, all lingered more or less in a protracted fight for dominancy or for life, while John Chinaman's prolific race was amongst the very last to succumb to the universal intrusion of our vigorous section of the white skins. The conjoined British and American Empires had at last everywhere predominated, to overspread our earth with the English speech and the Kelto-German races.

SOME CHIEF CAUSES OF OUR GREAT PROGRESS—GREAT INCREASE OF POPULATION.

When we consider that the world, just as it is to-day, when we are upon the verge of the thirtieth century of our era, has considerably over a million times more people than it was possessed of when we were just upon the twentieth century, a thousand years ago, and that all this multitude is not only kept alive, but is even prosperous and comfortable throughout besides, as well as everywhere busy as bees over the earth's surface, both above and below ground, we cannot fail, in view of such a lively throng of working heads and hands, to be aware of, at any rate, one grand cause of our progress during the interval I am about to survey. Old prophetic Malthus, as things have turned out, sounded quite a false alarm, with his fears for the food-supply as against the population-

increase of the future. For centuries after his long-past day, the still thinly peopled world had food enough in the old accustomed natural food-raising ways, when its comparatively sparse inhabitants had successively occupied and ploughed up the many vacant areas which the world could still show during and for long after the nineteenth century. But, as we have already hinted, when these previously empty spaces got completely covered with human beings, and their cultivation was thus no longer possible, chemistry had already come to man's help, to give him food by much shorter and more convenient processes than the tedious roundabout of old-fashioned Nature.

THE WOMAN AS WELL AS THE MAN AT WORK FOR THE WORLD.

Early in my retrospect, as indeed I have already said, the woman also was at full work for the world's progress, as well as the man. The sex had fought bravely and well the battle for this right—the right, which should be common to both sexes, to help on the ever-advancing world. And this battle being gained, the world had since experienced the difference of pace due to the augmented numbers and variety of the propellants at its wheels. There was also another important consequence to this victory. The two sexes, thus busily and usefully occupied, met each other more frequently in the walks of industry, especially in their earlier life, and thus formed attachments which kept them steady until terminated in marriage. Thus marriage, and mostly early

marriage, became the universal rule. Heavy family responsibilities followed of course, and the cause of population-increase was everywhere ascendant. But against that one expense, formidable as it might be, there arose concurrently quite a host of economies, moral, social and material, every item of which was a distinct, although a varied kind of gain to society. And thus, for example, ere the twentieth century had run its course, our society was able to boast that two great social evils of the nineteenth had practically disappeared, namely, the public-house in its old familiar and ungainly aspect, and that heretofore supposed ineradicable feature of all society, which had appropriated to itself, par excellence, the title of "the social evil."

UNIVERSAL EDUCATION OF THE PEOPLE.

Although the State is the only parent possible to the whole national family, the State was long of apprehending, and duly undertaking, its educational duties as such. But towards the end of the nineteenth century this duty was at last begun, and a most memorable era was thus inaugurated in the national life and history. At the outset there was much uncertainty, as well as curiosity, at what might be the result, upon the society at large, of our universal education. Looking back from so many centuries, our subject possesses the certainty of fact, as well as the interest of a great problem. We shall see the effects as we step along, century by century, through my retrospect.

I shall merely say here that, after some preliminary experiences, we entirely reversed most of our old educa-

tional ways. Thus grammar was taught last instead of first. Then, instead of Greek and Latin, there was a general grounding in science, and an after special grounding in technical education. The dead languages, in fact, were not taught at all, except for special pursuits and capacities; but, instead, there was thorough proficiency in the leading modern languages—in two or three such as the rule, and in more according to taste or capacity, or the final bent or business of life. One important and far-reaching change consisted in learning to read always as though naturally speaking. The old drawl was insufferable, and this dramatic method alone was sufficient to send the vigour of life, as compared with the languor of death, through a great and varied section of education. Again, the increasing multiplicities of study demanded all the possible economies of simplicity in charging the minds and memories of youth; and thus varying forms of the same letter or cypher were done away with, while writing and printing were brought as nearly as might be into one and the same aspect. A special feature of the new system was the general medical supervision, which was throughout of the most careful and discriminative character. With all these changes, facilities, and safeguards, capped by those of the decimal and metric system, education was deprived of half its difficulties, or rather, as was the happier result, the pupil was passed, with the same time and exertion as of old, through a double curriculum.

Education was “compulsory,” if we must use that ugly term in such a cause; as though we described the hospital as for compulsory curing, and the parental

home as a compulsory refuge. Education finally settled itself, as was inevitable as well as appropriate, in view alike of the present and the future, into the free gift of the State, impartially awarded to all its children, in degrees and varieties according to their natural capacity and aptitude. But, to the national credit, this was rarely any expense to the State, as the large and increasing means of its more prosperous citizens were ever emulatively offered to defray the cost. Repeatedly, at particular stages of the educational course, the millions of pupils were each and all carefully examined as to their respective dispositions, and their attainments physical and mental, so as to direct specially the further and higher education. The State thus appreciatively overlooked and estimated the vast and varied field of its future prospect and hope. It was truly the spectacle of a precious and priceless mine, which the State, as the privileged owner, could not but treat with all that science and skill which should secure from it the largest and best outcome.

The generation which inaugurated all this great change was not indeed fully rewarded by seeing and enjoying all its effects. Not indeed until the twentieth and succeeding centuries did we experience the full benefit of that great national movement. When scientific and technical education had come into full play, every one of the almost countless mass of workers was converted into an actual daily and hourly combatant in the battle of science, as well as of business and general progress. In thus ever marshalling forth the educated talent of the great mass of the nation, the new system gave to progress its prodigious

after-impulse, and so at last amply rewarded the patriotic and far-seeing State, for its first heavy bill of cares and costs, by the greatness of the country's future. The effect of this system also, to level, by its quiet action, the hereditary class walls of an old society, and to assure everywhere the healthful predominance of personal merit and public usefulness, has always powerfully contributed to our political contentment, and to the stability of the social fabric.

A NEW PAGE TURNED IN UNIVERSITY LIFE.

Even material progress may be largely aided by social and moral advance. Such was our experience after the nineteenth century, when, happily, our youth required no longer to quit the amenities and protective surroundings of home, in order to complete their education at the university. The wider range of female education, which came in with the twentieth century, had much to do with this improved aspect of the university question. The attendance of both sexes, as regarded this higher education, became so large and general, that additional universities were necessary over all the country. Every dwelling was thus so near to one or other of these institutions, as to render unnecessary a permanent residence at the university, or elsewhere than at the parental home; and thus a practice, but too fertile of deteriorating influences for after-life, was wholly given up. The "University Express," filled morning and evening, going and returning, with the fresh young life of the rising race, was one of the stirring and characteristic railway spectacles of the time.

Our sons thus escaped, at their most critical age, exposure to much evil. The restraining modesty, natural to youth, is usually proof against the ordinary tear and wear of society; but the exposure of old university life had been only too apt to entirely break down and dissipate its barriers, and to send forth the youth into his maturer life deprived of those restraining tendencies, and that regulated moderation of desire, which are so indispensable to life's highest efforts and most real enjoyment. Under the better auspices alluded to, our youth betook themselves both more steadily and more heartily to all the science and business progress of their day, and brought, as well, a greater strength and endurance, mind and body, to the world's work. The old saying that the youth would turn out all the better man by a free and early sowing of his wild oats, is about as well founded as that other old saw, which, in spite of medical contradiction, was wont to aver that our bodies were improved after having been scourged by fever, small-pox, syphilis, and the other ills that flesh is heir to.

CESSATION OF WAR—HOW AND WHEN IT CAME ABOUT.

If the world's pace was so visibly accelerated, as I have had occasion to notice, by the happy solution of the woman's rights problem, and the consequent accession of the whole sex to the ranks of its workers, there was yet another change of the twentieth century, which was hardly, if at all, less momentous, even in the same work-and-labour direction. This was the final cessation of war, and the converting of all war's levies and expenses into the interests of peace and progress.

The professional soldier had ceased to be a European feature ere the twentieth century had run out. The remarkable, simple, and indeed somewhat sudden and even unexpected way in which international war came to its end—became, in fact, a practical impossibility, as between, at least, the chief civilized powers, from the practice, which came to be adopted in common, of training all their respective youth to military drill, and the effective defensive use of the modern arms of precision—is one of the striking incidents with which my retrospect will have presently to deal. I will only meanwhile remark, that the effect of this result upon the civilized world's sentiment, and the mutual intercourse of its societies, and upon the entire world's general forward advance, could hardly be overrated.

TRADES' UNION REFORM, AND ADVANCING CONDITION OF OUR WORKING CLASSES.

No cause of our past progress was more real or more visible, during, at least, the earlier centuries of my retrospect, than that reforming and reconstructing spirit, which was introduced into all trade union life by its illustrious leader and renovator, Yellowly. It was Yellowly's proud prediction that his class-fellows were to take the van of future progress, and that, to this end, trade union law would be even stricter than the public law itself, and trade union economic views and practice more unchallengeable than the dicta of economic professors; and he survived far enough into the twentieth century to see these ardent hopes in fair way to fulfilment.

The twentieth century proved, indeed, specially favourable to the working class generally, by the great amelioration of the conditions of labour, as well as its improved efficiency, through the universally extended application of machinery. The quick turn over of capital, and the small amounts thus required in this way, were favourable to the co-operative association of working-men, which accordingly made marked progress in this century. And it was only to be expected that this advanced material condition, in the great mass of the population, associated as it was with universal educational attainment, should have an elevating effect on mind and habits; and there was, indeed, in these respects, a great advance along the whole industrial front.

Amongst other effects, Yellowly survived to see, in the fair way of realization, the desire of his heart—that the vast expenditure of his class upon intoxicating drinks, which he so much grudged, even as a mere money question, should be diverted to purposes more useful to the class and more creditable to the man. He had hoped that the very marked reform in that respect, which the nineteenth century had brought to the richer and employing classes, might, with the twentieth century, reach also the great mass of the employed; and ere he quitted the world he had the satisfaction to see that this hope was not to be disappointed. We shall also have occasion to see how, in carrying out with more and more practised hand, the economies of co-operative dwellings, our working classes were enabled to house themselves in large and commodious, and even elegant and elegantly furnished, mansions, where, as an entirely new feature of their life, the

cheerful and varied social attractions became altogether superior to those of the old public-house. As I have already said, that seemingly inevitable accompaniment of our social life of the nineteenth century, had virtually ceased to haunt us, at least in any recognizable aspect, ere the twentieth had closed.

A WORD ON CO-OPERATION—ITS ECONOMIES AND PROGRESS.

The economic marvels of co-operation had not escaped attention in the last half of the nineteenth century; but it was only in the twentieth that the system attained such extension and indeed universality of application, as brought comparative abundance and comfort to even the very poorest classes, and constituted quite a new era, not only in the economies of the production and distribution of society's material wants, but even more strikingly in the social comfort and cheerfulness of the new style of the homes of the great mass of the people.

The cheapness of wholesale dealing was everywhere availed of. The nineteenth century had indeed experienced something of this benefit, in the Civil Service and other "co-operative store-keeping;" but that had been chiefly for the good of classes already comparatively well-off. In the twentieth century, on the other hand, this co-operation had spread its gains and savings to the entire people, including even the very poorest. The revolution thus brought to many vocations, as, for example, the necessary superseding of a vast mass of small shopkeeping, was, in reality, after all, much less rapid, and much less disturbing

to society than theorizing fears had predicted. The thorough understanding amongst all classes and vocations—that the car of progress must have its perfectly free course, and that no one class or trade was to be protected at the expense of the rest—had everywhere the best possible effect in stimulating all parties to face their respective contingencies, and to enter heartily upon the larger and better field everywhere opened to them. The great resources arising out of the universal diffusion of education enabled such classes as were in turn from time to time affected by the various and not seldom rapid economic changes of that stirring age, to bear them with comparative impunity, and to adjust themselves with more or less facility to the new circumstances.

Then, again, the co-operative principle had, with this twentieth century, successfully pervaded all industrial life, thus largely realizing Yellowly's ambitious anticipations as to his class-fellows becoming themselves principals instead of servants in their various work. This position was all the more easily attained amongst a universally educated people, by the greater efficiency and promptitude of result given to labour by universal mechanical appliance. Large capital became thus, for many kinds of undertakings, almost quite a secondary consideration. By the cheapness and excellence of all kinds of machinery, which our skilled countrymen turned out at home, or our free ports invited from all parts of the world, and by the quick turn over of work which such machinery effected, co-operations of working-men were enabled, even with very limited spare means, to compete successfully with great

capitalists in most of the cases of ordinary enterprise. When strikes did occur in the twentieth century, the alternative of having co-operation to fall back upon was always one of the considerations of the case, and a consideration which the employer, most of all, had to keep precautionarily in view. Indeed not more important was it for the welfare of the striker himself, than for that of society at large, that the former should strike for the alternative merely of a different form of work, rather than for a complete cessation from labour.

THE GREAT PARLIAMENTARY BLOCK, AND ITS FINAL
CURE BY THE "SPECIAL HANSARD."

The tactics of obstruction by small minorities, as on the occasion of the grave and perplexing Irish questions, which crowded upon our Parliament towards the close of the nineteenth century, were not by any means the sole cause of parliamentary block, although they happily contributed a powerful and timely stimulus towards the eventual removal of a continually increasing difficulty in national legislation. All could see that the endless legislative needs of an advancing civilization could be but inadequately responded to in parliament under the old accustomed modes of procedure, even if these were never otherwise than honestly dealt with. Some process was wanted by help of which, within reasonable hours, or even, for that matter, within any possible hours whatever, all the required public measures could be adequately discussed as well as passed and enacted. Prior to that great and complete cure which was

finally effected, and which, as I am now about to explain, acquired the name of the "Special Hansard," all attempted remedies had the defect, more or less, of saving time by the prevention, exclusion, or suppression of discussion. Mind and opinion, good, bad, or indifferent, were thus alike shut out. Such a system, failing the possibility of any other, might be of necessity submitted to in cases of predetermined obstruction, and of glaring abuses of parliamentary privileges. But it proved intolerable in any general application, and thus the parliamentary block remained substantially uncured by such mere shifts as the "cloture," and got worse and worse from session to session, and from day to day. The accumulation of postponed, or abortive, or wholly unattempted measures had reduced successive premiers and ministries at last to blank despair.

Necessity is ever the fertile mother of invention or expedient. Very early in my retrospect, it happened that one of the overwhelmed premiers of that time, after exhibiting to the House the otherwise hopeless aspects of his case, besought its tolerance of the experiment of a new procedure. The suggestion was substantially this, that instead of the usual speeches upon important propositions, members should give their views in writing. These written views formed a special publication of parliament, which took the afterwards famous name of the "Special Hansard." Sufficient intervals and opportunities were given for adequate discussion, reconsideration, or suggestion, after which each successive measure went swiftly and quietly to final division. Parliament having assented, perhaps, at the time,

not less helplessly than willingly, to try the new method, it was brought at once into life and action; and it promptly became far too indispensable to each parliamentary programme to be ever afterwards abandoned. Thus was begun an altogether new parliamentary system, by which successive ministries could meet, easily and adequately, the legislative wants of their time, and the Government of our advancing country could be piloted with comparative facility through centuries of after progress.

Various remarkable and beneficial changes followed in the wake of the "Special Hansard." The system certainly developed a more wide and free and careful expression of view; and there was an almost instantaneous collapse of all unseemly or disturbing scenes. Again, when so much of parliamentary work was transferred from the floor of the House to that of the bureau, alike with members generally as with ministers, and when, by "Special Hansard," so much of the House's time was saved, the parliamentary hours took a prompt accordance to the new circumstances. A minister could now be carrying through, all at one and the same time, as many great measures as there was occasion for, and yet be simultaneously and quietly conducting the other and ordinary business of Parliament, and all within some few reasonable and convenient hours of the afternoon or evening.

No after consequence of this "Special Hansard" system was either more striking or more generally useful than the habit it encouraged, or rather of necessity enforced, of concise expression. Indeed, from the very first, every reasonable mind must have foreseen that the chief chance of being attended to,

in the crowd of competitive views, lay in a judicious brevity. As time went on, and the field of scientific and business life took its due concurrent expansion, this brevity of expression, into which, in its particular department, the "Special Hansard" had graduated us, became a general feature of all society's many vocations, and thus enabled the advancing race to keep up with a breadth of knowledge, which, otherwise, must have been an attainment impossible alike to time and strength.

STATE AID TO PROGRESS BY MEANS OF SPECIAL TRUSTS.

The old question as to whether the State should intervene in general progress, or leave the whole field to private enterprise, received a happy solution, after the nineteenth century, in the principle of Special Trusts, in which the State would originate and conduct certain classes of great and desirable projects, but without involving the country's government in pecuniary responsibility. Each such project was expected to clear its own cost eventually; and if not by ordinary reproduction, at any rate, in the final resort, by that natural increment of value, in a progressive country, through the mere efflux of time. Of course, therefore, anything to be attempted, in this promising and convenient way, must necessarily be only of a kind calculated for such a result. Many such works successively presented themselves; and thus grand and beneficial works, of a kind, or upon a scale, which private enterprise could hardly have even dreamt of, were duly entered upon, and,

after a more or less protracted term of years, successfully carried through, free of any ultimate cost.

We did not, indeed, keep quite strictly, in every case, to where the sure "unearned increment of value" of the real estate was ultimately to clear all costs. Some of these special great national works were adventured upon under more ordinary prospects as to final reimbursement; as when the bold but successful and convenient project was taken up of concentrating all the public offices in one grand and commodious edifice, reared upon the less crowded space, at the time, just a little outside the metropolis. The costs in this case were met, partly by sale of the superseded offices in their too crowded but valuable sites, and partly by the increasing fees and rentals of the future, as I shall have presently more fully to tell. And, again, when the State took in hand the inauguration of a great national theatre, and other such works, of a kind which private enterprise was not ready for, or not disposed to try in the way most desirable or beneficial, we would, in such cases, group the several results under one trust, with its better promise of a successful average. But any such works were exceptionally few, and only the occasional subjects of the special trust system. The regular field lay rather in those works which repaid first cost by the reliable future rise of value in the nation's real estate, through the certain advance of the people, in numbers, in science and commerce, and in wealth.

The first great step in this direction—in the regular road, so to say, of these special trusts—was the ever famous resanitation, or rather sanitary reconstruc-

tion of London, a work which, in its main result, as we shall shortly see, was successfully carried through, as anticipated, in about a third of a century, although partially protracted, in view of certain other objects, for some time longer. But even greater than this great project, and necessarily protracted in its redemptive operation for a much longer interval, was the magnificent work of the embankment and reclamation of the Lower Thames, by which English soil acquired an accession of some hundreds of square miles, at a comparative trifle of concurrent outlay; the cost having eventually been mainly defrayed by the said advance in value due to a busy century of national progress.

These special trust enterprises involved, of course, a vast outlay of ready money at the first. The source of supply lay in the successive issue of trust stocks, which stocks, for several reasons at the time, came to be quite adequately, and, indeed, often greedily competed for in the expanding money market of those days. First, there was the effect of the full confidence, which soon came to be felt by the public, in the soundness of the principle of these trusts. Second, the vast and constantly increasing amount of savings' bank, insurance, and other funds, had provided a corresponding demand for just such a class of investments as these stocks then offered. The reserve funds of the many insurance companies, for instance, ere the nineteenth century was out, had reached, in not a few cases, to twenty millions each and upwards, and in the course of the twentieth to even a hundred millions each. Lastly, there was concurrently also, about this time, the continual

diminution and final extinction of that long-accustomed investment resource, our once great national debt, whose manner of decline, and whose ultimate death, I am about to relate. As the rate of interest on our debt—by a bold and happy stroke, during one of the recurring intervals of “cheap money” towards the end of the nineteenth century—had been successfully reduced from three per cent. to two and a half per cent., so there was the less difficulty in negotiating the Special Trust issues at moderate rates of interest, these being usually not over three per cent.

HOW WE REDUCED THE INTEREST RATE, AND FINALLY EXTINGUISHED OUR NATIONAL DEBT.

Yellowly gave us at times his ideas about reducing the interest of our National Debt, and finally extinguishing the principal.—AUTHOR, chap. i.

Let us glance back for a moment to these two great events, which formed national eras in their respective times, and were almost unexpectedly simple in the means by which they were successively accomplished. From the middle of the nineteenth century, a distinguished minister and premier of those remote but not yet forgotten times had made the question of the reduced interest his own; and he happily survived to see his grand expectation realized. When seasons of cheap money came round, so as to send up the price of the old three per cent. consols substantially above par, which happened, in fact, on repeated occasions before the actual step of conversion into two and a half per cent. was ventured upon, there had always seemed to be two great obstacles in

the way. First, there was the hugeness of the total to be dealt with ; and, second, the fact that much the larger part of the amount required a twelve months' notice to the national creditor. As to the first obstacle, then, the idea of attacking so great an amount, if it were to be done in any piecemeal fashion, appeared all but hopeless of final and complete result ; while, as to the second, however favourable any present moment of the market might seem for the projected conversion, who could answer, in those shifting, unpredictable times, for the monetary conditions twelve months later ?

The simple course eventually taken, and the easy success which attended it, showed how needless were the many fears and hesitations which preceded this great public measure. For example, instead of the largeness of the amount being a difficulty, it proved, as was foreseen by the practical minds consulted, to be the chief cause of ensuring and facilitating the operation. The State, in offering to its creditors a two and a half per cent. stock in exchange for a three per cent., must offer, of course, the alternative of a money payment. But any large amount of such money payments, seeking simultaneously other investments, must so violently disturb the market, comparatively limited as it would be in other like suitable securities, as soon to make such other investment difficult or impossible on advantageous terms. And, besides, there was the probable fact that the larger part of consols' holdings were bound to that particular security, and would thus be maintained, even under the proposed reduction of the interest rate.

The other difficulty remained, namely, the practical

surmounting of the twelve months' notice, so as to give prompt and simultaneous effect to the whole operation. Let us consider the way in which this was successfully accomplished. The issue of a two and a half per cent., in simple exchange for a three per cent., hundred for hundred, was not deemed possible, or even, perhaps, quite a fair and reasonable offer of treatment to the public creditor. Accordingly he was to be met by the concession of a substantial discount upon the substituted two and a half per cent., but still a discount, comparatively speaking, so moderate as to leave an enormous advantage to the State by the conversion. The temptation of this discount became the efficient leverage by which the disadvantage of the twelve months' notice was obviated. The discount was allowed to those only who decided at once. This proved a generally successful argument. Indeed, only a comparatively small amount of money payment was actually demanded in the entire operation.

There are but a few more words to complete the account of the final procedure in this business. The principle adopted was, that, on the one hand, there should be a uniform two and a half per cent. stock offered to the public; and, on the other hand, a stock of terminable annuities in readiness, from the sale of which, in amounts as might happen to be required, the State was to be put in funds to pay off dissentients. The State, in short, offered the former stock on its own terms, but was compelled, of course, to accept the terms of buyers for the latter stock. It was only because the latter stock proved to be very much the lesser of the two, that the State came off the decided gainer upon the operation.

Let me now turn to the still more important subject of the final extinction of our national debt. This great operation was successfully accomplished by using, seemingly, very inadequate means, aided, however, by steady accumulative action over a long interval of time. Our story begins a little outside of its own actual boundaries, and introduces us to the old interminable questions about the currency. Our monetary circulation, up to nearly the close of the nineteenth century, was mainly metallic; and there was a tacitly understood national monetary policy in keeping it so, and in preventing any very general substitution of paper. But the public's preference for the more handy and convenient paper was all this time very decided, and all that the public wanted was but the chance of getting it. The field was thus a tempting one to poach upon, and it was at last so seriously invaded by the paper of cheque banks, and by other issue contrivances, as to threaten the disappearance of most of the great metallic reserves. The public, in its readiness for the paper, would accept even the second class of it, offered by all and sundry issuers, if the first were not to be had.

The Government at length intervened. It seemed advisable that the State should supply, to its own profit as well as the public benefit, a suitable and undoubted paper. While free play was to be given to the public appetite in this direction, the exchanged specie was all to be held available, until, at any rate, experience had determined what proportion of it might be safely dispensed with, and thus turned to other and profitable account. By a modification of the postal notes system, an excellent smaller currency

was gradually brought into extensive domestic use, and was exchanged for many millions of specie. Successive portions of this great metallic stock were afterwards applied to redemption of parts of the public debt. But a substantial metallic reserve was still kept on hand, and experience proved that even five or ten millions, available in this way, were more effective against crisis than fifty millions scattered amongst the public. The amounts thus saved were strictly and steadily applied, on the accumulative principle, by a commission specially intrusted with the business, and the funds in hand were solemnly placed beyond reach of the temptations incident to any future "First Lord of the Treasury." In this way, with the aid of repayments at times out of surplus revenue, the entire debt was finally redeemed within a century.

STATE ASSISTANCE FREE TO THE POORER YOUTH.

It was something for the State to be able at last to boast that there was difficulty to discover anywhere a poor youth, needing, or willing to accept, help, and who would thus confer upon it the luxury of helping one of its sons forward in life's struggle. That condition was indeed substantially attained. But towards its high attainment a good deal had been done, in preceding generations, as to the suppression or extirpation of crime, mendicancy, tramping, gipsying, and so on, as we shall have occasion to see further on. The time arrived when the State could not only give a free education to all its youth, but could help forward into the successes of their maturer life any

who were in need. Advances were made, in money or clothing, as required by the youth on quitting school. This was at first from funds supplied to the State's use in this way by the charity organization of the time. But eventually, when there was a satisfactory and reliable regularity established in the final repayments of these advances, the system was made the subject of a special trust. A great ledger of the State, in short, was opened for these national advances; and when the assisted youth afterwards repaid his loan, he was awarded a medal which was often long preserved as an honoured heirloom, even in the most prosperous families. These repayments, principal and interest, became at last so regular as to justify, as I have said, the application of the special trust system. By charging the borrowers a slightly higher interest than was paid upon the trust stock, the comparatively small loss from the defaulting, or the exceptionally unlucky, was covered, and the trust became self-paying. As every honest or willing youth of either sex could thus always fall back upon the ways and means to get on in the world, the whole society moved forward by so much the quicker and better pace.

PROGRESS BY SPECIALITY OF STUDY.

As subdivision of labour has been so fruitful in the business field, so did it prove also when increasingly applied, in those busy times, to other departments of work, and especially to the great field of science. But science itself became more and more associated with ordinary business, the latter, in most cases,

depending at every step upon scientific attainment and application. With the increasing crowd of workers, and the vast and ever-expanding field of work, no one could hope to be of any great service to the world, or leave his mark behind him, who aimed to try his hand or his head at many different things. Those who stuck to some one subject, which, with its limitation of range, they were able thoroughly to master, were most likely to rise to the position of authorities upon such a limited range, and to be listened to by the rest of the world.

Thus science, when pursued by each of its countless students, within their respective small enclosures, but with thorough and continuous study, made collectively a giant progress. As most people began, about this time, to be content to work in this quiet but effective way, they became masters and authorities in their respective specialities; and thus the vast army of workers, each soldier within his own particular range, advanced the boundaries of science by ever increasing observation and discovery.

At the close of the nineteenth century, society had indeed already entered, but only to the mere threshold, of a vast field of progress. There was some slight foretaste of that progress during the last half of that century, when, besides the ordinary electric telegraph, introduced just a little while before, the spectroscope, the telephone, the microphone, the photophone, and such-like, came successively crowding upon the raw and astonished world of that primitive day, and when electric light was everywhere empowering us to turn night into brilliant day. In due time succeeded the far grander discovery of the

cross-electric, with all its powers and marvels, bringing to science universally a double or treble power and pace.

Our youths of those days, then, as they passed out of school or university into the working world, were usually exhorted to choose early and deliberately, if they had not already done so, their special field, whether of business or science, in order that no time might be needlessly lost, where life was so short, and where so much must be first done ere each fresh candidate could aspire to be of any use to the world, in adding anything to the previous accumulation of its attainments. All were started in common with the advantage of a good and respectively suitable education; and, as we have seen in the general State-aid system, no one deserving and willing needed to want such further material help as the first steps of his life's career might require. There was thus before every one a fair start upon a fair field; and under all these favouring circumstances, as we have already said, a very vigorous human race was maintained.

PROGRESS CONSUMMATION FOR THE TIME, IN THE GRAND DISCOVERY OF THE CROSS-ELECTRIC.

The discovery of Cross-Electric power, and next of the Duplication of the Cross, and finally of the Reduplication, mark the successive stages of science progress, during the busy period embraced by my retrospect. These grand successive discoveries were made indeed at wide intervals. The first, that of the simple Cross-Electric, came comparatively early in

my history ; the third and last, that greatest of all past discoveries, that of the Reduplicatory power, belongs to the current age, and is still in the recollection of not a few now alive, who can thus look to times almost, one could say, of comparative ignorance which preceded it. Some sanguine minds already indulge the hope of science's advance into the powers of the Cross-Triplication, or the Ter-Cross, as it is alternatively and abbreviatively called ; and there are some few who talk wildly of even the Quarto-Cross, and such powers and such range of mental view as pertain, in the opinion of more sober spirits, only to the super-human.

But however it may be with that outer ledge of the progress question, the discovery of the cross-electric, simple and small as, in a comparative sense, that old discovery may now appear to us, inaugurated a progress far outstripping anything previously in human experience. This great event of its time opened to man a new range of power over the material universe. We have had occasion already to notice the great advance it gave to organic chemistry, in helping us to produce our food directly in the laboratory, instead of by the old protracted circuitous process of natural vital growth, with all its monopolizing requirement of surface-room on the earth, which could no longer be spared to it. This cross-electric discovery led us promptly to that of the Electro-Light speed, a speed exceeding that of the heretofore amazing speed of simple light, in the proportion in which the distance between the crests of the waves or vibrations of light exceeds that between the atomic points of the component ether. Light-speed and Electro-light speed

passed, or, as it were, leaped, these respective intervals of space in the same time. We look back, let me here remark, upon the incredible dulness of the nineteenth-century mind, which was unable to catch many a subsequent discovery, although such discovery rested mainly upon proportions of which the elements or factors were, in certain instances, already well ascertained—such as the cases of the comparative wave dimensions of sound and light, which are long ago amongst our basal facts for so much of modern knowledge and discovery; for, on ascertaining, for instance, electro-light speed, we are able, and at once, to infer the distance separating the ether points, or particles; while that inference, by a further inference, in curious backward process, gave us the separating distance between ordinary material atoms, and the dimensions and mass of these themselves: this latter very remarkable inference being, however, of the less consequence at the time, as we had already arrived, by another and independent process, at the separating distances, the mass and the form of these elementary bodies.

By this great discovery of cross-electric speed, we were enabled to despatch the electro-light motor into far-off space, to overtake the ordinary light on its image or picture-carrying mission. It was not, however, until the further discovery of the Duplication of the Cross-Electric that we could bring back the overtaken picture—as, for instance, that of our little earth, as it was when the light quitted it so many years or so many ages past. Indeed, the vastly greater speed thus attained made us at last regard, with something like contempt, the old ordinary light-speed of about

one hundred and eighty thousand miles in a second. But what a grand field, as we may suppose, now opened upon our ancestors, in bringing back the past aspects of the world! And these, as we shall afterwards see, could be restored by high scientific manipulation, even to the actual life dimensions.

Finally came the discovery of our venerable and illustrious Black, within, as I have hinted, quite modern times—the climax discovery of the Reduplication of the Cross-Electric, by which we have since been enabled to launch our material bodies into that ether-filled space, which was previously traversed only by our minds and imaginations and our vibration messages. But now, with electro-light speed at locomotive command, who or what is to limit our future travel, as to either range or speed! White already foresees for us a travel-speed approaching that of ordinary light. “Give to us sailors,” he says, “the wide interastral ocean, and who knows what speed we may fail to work up to in such a free field of open sea? Whereas we now only travel to the planets, a thousand years hence, Green,” he would say to me, “we shall be voyaging to the very stars, and having personal acquaintance and handshaking with those whom as yet we are permitted only to intermessage.”

CHAPTER VI.

A CHAPTER ON SOME EARLY BUT HIGH POLITICAL
CHANGES.

Yellowly gave us many ideas, political and general, as to the future.—AUTHOR, chap. i.

HAVING briefly sketched, in the preceding chapter, some chief causes of that remarkable pace of advance which set in upon our country after the nineteenth century, it was to have been my plan to have next adduced various illustrative instances through each successive century. But before entering upon that systematic detail, I propose first to devote one more chapter to a view of some of the more interesting points of the general history and progress, more especially regarding the earlier centuries of my retrospect. The events of these earlier times—as, for instance, those connected with our national political developments, or those again which had relation to the cessation of international war, and to the new world thus opened to international commerce and socialities—had no small bearing upon our after history. Let us begin then by a glance backward at the—

POLITICAL AND CONSTITUTIONAL DEVELOPMENT, AND
THE COMMONWEALTH OF ENGLAND.

Any thoughtful and unbiased observer of our political tendencies in the nineteenth century could hardly have avoided the conclusion that the twentieth and succeeding centuries would see important changes in the practice at least, if not the theory or external form, of our Government. To stand still was impossible to the increasing pressure of the needs of our political life; and to what, therefore, were we driving? "The Crown" had already, in the nineteenth century, become "constitutional;" which meant that already it could have no will of its own, apart from that of the people, as indicated by the majorities of their representative system. Our Upper House had gone partly on the same road with the Crown, and might perhaps have as fully traversed the "constitutional" field, but for the saving practice of incorporating distinguished outside ability into its hereditary ranks. The Upper House, in this way, retained more or less of a real political life. Indeed, when, very early in our retrospect, as we shall presently see, the ecclesiastical element seceded from that House, and when, later on, the hereditary element was suffered to die out, there resulted quite a renovation of its political strength. But there were no available parachutes of these kinds to save "the Crown," which gradually, therefore, dropped out of practical account, paled from political view, and finally disappeared from the country's Government.

We are a people peculiarly addicted to political

ways of our own, and to keeping within our own accustomed political groove. But although we do not usually move on by revolutionary bounds, yet, while keeping within so-called constitutional lines, we can be really making great political change all the time. The politico-social surface is apparently undisturbed from year to year; but yet the old monarchical relations are successively bending to the demands and necessities of an altering and advancing society. And yet, in the vitality of old forms, our royal family, even when no longer participant in practical politics, continued long at the social front with a routine of national duties. And along with such traditional royalty were the still interesting survivals of old historic family life, whose social consideration was now all the less grudged, when no longer propped up by hereditary privilege and power.

Our national political forms, indeed, continued much as they were before. The actual head of the Government was still the "Premier," who governed mainly through his majority in the "Lower House." A change of ministry came by an "understanding," to which both Houses, but especially the "Lower," were usually parties, the understanding being, in fact, in place of the Crown. But we were still, as before, a constitutional Government. We did not assume the name of a Republic, that term being foreign to our political history and associations. We were a Commonwealth; and we finally found ourselves simply the Commonwealth of England.

THE STORY AS TO HOW WAR CAME AT LAST TO ITS END.

As the nineteenth century drew towards its close, disturbing us with the still unsettled Eastern Question, succeeding to the terrible Russo-Turkish conflict of that time,—and as we could then look back, over even the brief term of hardly more than quarter of a century, upon quite a dozen wars of the chief civilized powers of the day, ourselves by no means outside of the fray,—it did seem as though war was fated, not to diminish, but somehow, most grievously, to increase, along with all the other and better advance of mankind. It seemed, in short, as though, in this chequered world of ours, the blessing of the one kind of advance was ever to be balanced by the curse of the other. And yet, at that very time of such despair of the world's future in that particular direction, we were, quite unawares, wonderfully close upon causes and events which were to result in the complete cessation of war, as between, at least, the great civilized powers of the world, and, in fact, in making war, in their case, a practical impossibility. Let us now see how all this came about.

Our national trust for national defence had long and proverbially been in "England's wooden walls." This figure of speech was still kept up even after our war-ships had become iron and steel instead of wood. Our military force, in those supposed safe circumstances of our insular position, had been comparatively unimportant. Defended by the said wooden walls, and behind these by our inexhaustible resources of capital, we deemed ourselves a match for all that

might come against us. But, in spite of all this confidence, we might then have taken credit for being, on the whole, peaceably inclined, and not usually boastful, either as people or Government, of all the good and secure things we seemed to be possessed of. And so our national life might have flowed steadily and safely on, none outside wishing to disturb us. But, on the other hand, times and opportunities were occasionally tempting to the eloquence, penetration, and patriotic aspirations of statesmanship. And, after all, Governments are but the individual men, who, with all their special merits or infirmities, compose them.

Political difficulties will arise somehow, even in spite of every apparent care, and every professed or expressed wish for the contrary. And so it happened just about the time I now speak of. It was just after we had successfully projected, and entered upon the construction of the Grand Direct and specially officially used Express railway line to India. The unfriendly independence, and coldly unyielding character of the position taken up by allied France and Germany, with regard to the all-important liberties and privileges of that part of the line which was to traverse the few miles of the southern corner of the neutral territory of the old Duchy of Luxemburg, and the suspicious and annoying, nay even insulting fact, that these two countries had, in the most amicable way, as between themselves, united for that very object, were things which, in the estimation of our then premier, were not to be passed lightly over by a great and independent country. Although a cloud began to settle over markets, through this bold

and patriotic bearing of our political head, yet the unmoved chief was quite equal to the occasion ; and at the annual Guildhall dinner, which happened opportunely just then, he cheered up and delighted an enthusiastic audience with the assurance that, even if war did come, England's great fund of capital could survive that of any other country, and could carry us through, not one campaign merely, but, if necessary, two or even three in succession, to the utter prostration of any or all opponents. And, indeed, no doubt was entertained by any reasonable person, that if England were minded to spend her last shilling and throw her last man into glorious war, she could give a good deal of trouble to any opponents. But, in the present case, there was specially India concerned—India, so all-important, especially in her future ; the further the future, the greater the present importance.

Under all these circumstances, a note was forwarded to the allied opposition, couched in terms of a dignified independence, which was purposely made conspicuous, while still formulated under the profoundest diplomatic courtesies. That style of thing promises, on the one side, a glorious success, where the other side may happen, from any cause at the time, to be more quiet and forbearing ; and had our bold political adventure thus happily ended, there was doubtless much fame in store for the courageous premier. But what if the other side should prove to be imbued like ourselves with the full idea of a dignified independence ? This unluckily proved, in the present instance, to be the case. In fact, to make matters all the worse, the Franco-German response seemed almost

the very counterpart of the English note—just as dignified, just as independent. This, therefore, already looked serious. But when a second note from us, not only firm but categorical, was responded to in the like firm and categorical way, it was seen at once that war was meant—had doubtless been so from the first, and had now, in fact, become inevitable.

Consternation at once overspread the country, and markets everywhere collapsed. Within a few days the two-and-a-half Consols had fallen from ninety-nine to seventy-nine, fifty thousand mercantile houses had suspended payment, a million working-men been thrown out of employment, and countless families reduced from plenty and comfort to deprivation and distress. But no help for it now; the country must face its fortunes; and after the first outburst of astonishment and despair, it did so with a good heart, proceeding to set its house in order, buckling to its new duties, and even taking comfort in the fact that the multitude of the unemployed was favourable to the prompt organization of an adequate defensive force.

The plans and projects of our powerful enemies were consistent with all the promptitude and war resources of those times. Word duly reached us that the combined Franco-German navy was to keep the English fleet engaged until at least half a million of well-disciplined soldiers were landed upon our thus unprotected shores, by help of the countless shipping and other appliances which the two great continental Governments were able to summon to their aid for just the brief interval needed. If victorious upon

landing, upon which they entirely reckoned, more invading forces might easily follow through the great Calais-Dover Tunnel, which great enterprise of that time had already been nearly a score of years at work. What matter if the English fleet, in the interval, annihilated the Franco-German ! The war compensation from land-subdued England would restore the loss tenfold.

The venerable field-marshal of those days tore out his remaining hairs in his utter desperation. He admitted that the country was entirely unready to oppose such a force, if the force in question were able to effect a landing ; and that such force might capture London, and even overrun the best of the country, ere there was a chance of our confronting our enemies on equal terms. But he, at the same time, most clearly demonstrated, that our three millions of well-educated youth, with all the advantages of the modern arms of precision, might, with only three months military discipline, have made the whole country impregnable to any possible foe. Three months ! But the Germans were to be ready in three days !

The Government, perplexed by the rapidity of events, had invited suggestions from a patriotic people, and by return of post a thousand letters lay on the desk of the anxious premier. When morning dawned on that eventful night, the dead hand was found to have grasped the five-hundreth letter ; but whether it had been perused or not, like the four hundred and ninety-nine opened before it, who could tell ? There was not the slightest ground to suspect suicide. All parties agreed in a magnificent funeral to the adventurous but most patriotic statesman.

The transchannel wires were in unwonted activity that morning. Some appreciable cordiality of re-approach from the other side met a prompt reciprocation from ours, and that again was succeeded by still more pronounced expressions. Ere the business day was over, the reconstituted English ministry found itself in entire accord and amity with its so lately expected enemies, to the boundless satisfaction of the many millions on either side of the question.

But the experience of this great national crisis was not to be lost upon us. We at once saw and decided that it must not occur a second time, and our precautions were as prompt as they were effectual. In passing all our youth, indiscriminately from prince to peasant, through a certain military drill, in order to qualify all, should the necessity arise, for the defence of their common country, there was never occasion to interfere with life's ordinary or business vocations. There was no necessity, even for a single day, for barrack life, with its deteriorating influence upon our youth. The drill, begun as part of the schoolboy's training, was continued as part also of his after youthful recreation, and it had a further advantage in imparting an erect and manly bearing to our entire population.

With this huge available force over the whole country, the existence of a professional army became less and less necessary, so that it was gradually reduced, and finally given up. Our neighbours on the Continent approved, and soon began, in this matter, to follow our English example. France admitted that had she been thus defensively prepared, the successful German invasion would have been

impossible; and, to even better purpose and effect, she further admitted that, had she been thus only defensively ready, the German war would never have occurred. When every citizen was a possible soldier, wielding with full precision the death-dealing modern arms, how would invasion be possible?

There were not wanting, indeed, certain lively regrets at the prosaic prospect thus opened to society's future by the disappearance of the soldier. And now that, in our Old England, hunting, shooting, fishing and such-like were about to be crowded out of the busy and teeming country, here, alas! was also the last possible resource of an independent gentleman, the professional army, going with the rest! What on earth is a gentleman now to do with himself, if his careful forefathers have provided for him, and he is himself indisposed to bend his back to the world's work? But society contrived by degrees to fill up this ominous-looking blank, and even to look back upon the once gentlemanly profession of killing one's fellow-men as amongst accomplishments no longer desirable. The twentieth century had not yet rolled past, ere all prospect of war, as between at least the great civilized powers of the world, had, by universal admission, finally disappeared.

An intensity of joy overspread the civilized world, on fully realizing that international war had in reality ceased. Amongst the various peoples of that world of those days, most of whom had by this time acquired the thorough command of their own destinies, great international celebrations were inaugurated, and great schemes in connection with peaceful progress were on all hands projected. The foreign element

in the human brotherhood, which before had seemed to sunder mankind, seemed now, on the contrary, rather the piquant bond of a closer union. International fetes, and other occasions of international meeting and greeting, were everywhere given and reciprocated.

One of the most striking of these, at this auspicious time, was between England and America, in the way of bridging the intermediate Atlantic. The great ocean was thenceforth to be reduced to a mere ferry, and the ferry-boats to resemble swift-travelling cities or districts, whose citizens of passage were to be hardly conscious *en route* that they had ever quitted *terra firma*. In realizing this idea there was a memorable race on either side to construct the first boat, and accomplish the first voyage of this new international visiting. But ever as the swift messages to either side told that one of the rivals was in advance of the other, a fresh relay was put on to restore the pace, each in this way falling back upon practically unlimited resource. The vain contest was therefore changed to an amicable agreement that each should finish at the same moment, as well as, at one and the same signal, start upon their respective voyage, each meeting the other in the mid-Atlantic. Fifty thousand passengers sailed simultaneously from either shore, and the accurate precision with which they met as arranged was not less satisfactory, as a scientific attainment, than the cordiality of the novel mid-ocean greeting. But these first boats of the great Atlantic ferry, which astonished their own generation, were in turn quite dwarfed by subsequent achievements of the like kind, when the twenty-first

century even still further surpassed the twentieth, than that busy century of comparative progress had done its predecessor the nineteenth.

AN INCIDENT OUT OF WAR-CESSATION.

Let me here, in passing, allude to an apparently trifling incident, which, arising out of the preceding great change in our military or defence system, led us eventually into a practice which became a characteristic national principle. In view of the saving of other military expense, a system was instituted of small fees, or payments, to the youth while under drill. These fees, ere long, were usually credited to a national insurance fund, by which each contributing youth could fall back upon a certain provision for his after necessities or old age. An anticipatory suggestion of some fund of this kind had already been made in the preceding generation, but the plan had not then been found practicable. On this later occasion there was entire success; and the system proved all the more effective from a habit of generous concession, on the part of those who did not need the fund, in favour of those who did.

THE MAP OF EUROPE AFTER THE NINETEENTH CENTURY.

The political geographer of the nineteenth century could hardly have failed of a curiously busy mind over apparently impending changes. But actual events in this respect rather exemplified the proverb that the unexpected is what always happens. While

the nineteenth century pointed to Eastern Europe as then most portentous of change, the striking facts of the twentieth had rather ranged themselves in the West.

The East, however, had its share, and the drama there was opened the earliest of the two, by the final break down of "the Sick Man" not very long after our retrospect opens. The fate of himself and his Government had been distinctly expedited by preceding events in Egypt, which had been at least the means of developing the long-smouldering discontent of Mohammedanism with the Turkish Caliphate. Upon the fall of the Turkish power a spiritual Caliphate was established at Mecca, thus restoring the religious supremacy of the Arab element. But by this time the power, learning, and respectability of Mohammedanism was in rapid transit to India.

We seized a favourable opportunity of ridding ourselves of the costs and responsibilities of Cyprus, thus restoring to us the lasting good-will of Russia, and materially increasing our estimation and influence in the European concert. We did not, of course, return the island to Turkish misrule, but placed it independently under European guarantees. We did practically the same with Egypt, after subduing the Arabi rebellion, our disinterestedness, well-nigh unexpected as it was, commanding the applause of the world. But not the less was this course for us a wise and far-seeing policy, as we avoided incorporating with our empire a country so exposed to other Great Powers of the world, and where our own protective insularity was totally lost to us.

We cordially helped Greece to secure, from the

Turkish ruins, all that her race and history could claim, and to start afresh upon a career of national greatness, denied to her heretofore in her constrained narrow quarters. Constantinople, by the mutual jealousies of Europe, was safeguarded into a free city, which, with an adequate territorial surrounding, was once more a conspicuous object and a busy centre of the world.

The defunct empire had yet many other pickings in its wake. Not the least interesting of restitutional claims was that of the Jew for his ancient heritage. The movement was so considerable and so effective, promoted as it was alike by the cordial good-will in general as by the occasional antipathies of his whole world acquaintanceship, and not least by the aroused ambition and boundless resources of the race, as at length to remove the Syrian difficulty at least from the heritage of problems which Turkey's break up had left for Europe.

Still more interesting and even less expected was the bearing of the case on the restoration of Poland, that happy national rectification and restitution which honoured the opening twentieth century. This was not, however, in fulfilment of the old ditty that when certain parties fall out, certain others come by their due, although that particular turn of the matter had once seemed not unlikely some short time before. The causes at work were more creditable to the improving national sentiment of the time, which could appreciate the national wrongs of the case, as well as the doubtful advantage to any nation of really alien elements coercively retained. Possibly these higher arguments might have been less effec-

tual, but for a solidly supplementary help arising out of the aforesaid Eastern unsettlement. Compensations elsewhere were thus provided for two of the parties thus restitutionally disposed, while that of the third, Germany, was happily forthcoming elsewhere, as we shall presently have occasion to see. At all events, a reconstituted Poland was one of the bright and happy features of the twentieth century. The "*Italia Irridenta*" question received also its final and happy solution about the same time and from like auspicious considerations.

We are already passed from Eastern to Western questions, and have come midway upon that of Poland, just narrated. There are more to follow as we further pursue the sun. Slight or small causes are proverbially productive of grand events. But presumably there is a helping and according preparation, as when the smallest spark will blow up a magazine, or a pistol-shot dislodge a mass of alpine rock; or when, as actually happened, an abstract discussion, at an international gathering in Belgium, on the advantages of a great independent, as compared with a small and dependent nationality, in the progress and destinies of civilized and enlightened peoples, led eventually to that country, by mutual accord, merging into France. The French Republic had by this time passed safely, and with fair steadiness in its trying circumstances, into the second generation, approving itself worthy of life by the moderation and forbearance of its course, especially towards the other and smaller political sections, which, if not altogether reconciled to the republic, had yet greater antipathies to each other.

This example had infectious effect upon Holland. The phlegmatic but business Hollander was not, however, credited with being moved solely by an abstract idea, or even by the more concrete attraction of bringing happily once more together the two sections of the great old German race. He had also a bright restoration vision of "the buried cities of the Zuyder Zee," and of other improvements and advantages of all kinds, which the power and capital of a great empire at his back might bring to his country.

England, from old political association and relationship, took quite a parental lead in both of these high international arrangements. Nor did her after experience fail to confirm her expectation, that the best way to be rid of the constant anxieties and responsibilities about adjacent small states was to have none of them in existence. Her cordial response on these interesting occasions gave her an influence and prestige which she willingly turned to account for the general harmony and good-will so auspicious of these times and doings.

Thus it was mainly at her instance that France, upon the union with Belgium, solemnly gave up all claim for the restoration of her old German conquest, Alsace-Lorraine. Whereupon Germany, not to be outdone in these steps of international amenity, forthwith dismissed one-half of her army. This pleasant tide in the affairs of men did not stop here. When the Dutch bride was ready to pass to the arms of her husband, the marriage present of the island of Heligoland, with which we completed the attractions of her trousseau, was not more a gracious parental attention to our late ward, than

a considerate and timely act towards Germany, and one which she accepted in the best spirit.

There is but one other incident to allude to in these changes of the European map. When that federal union between Spain and Portugal, so long looked and hoped for, as the preliminary to a complete political fusion, at length took place, and Spain was thus enabled to offer to us, with due consent of its people, the island of Madeira for her famous Gibraltar, an offer which we cordially accepted, the now united and completely self-possessed Peninsular State at once entered the European concert as a seventh Great Power, and in an age of general progress was soon able to show her grand capabilities and to restore the glories of the past. Nor were our new fellow-citizens of the genial little Atlantic island disappointed of the expected advantages of their change, when British enterprise had been fully directed to the new and cherished acquisition, and Madeira had become practically a sort of suburban sanitarium, for sanitary and holiday change, to the vast and busy city England.

CHAPTER VII.

THE NINETEENTH CENTURY. WHAT COULD STILL BE
DONE WITHIN ITS SMALL REMAINDER.

If our leading classes would still lead, they must not grudge the disturbance of progress.—AUTHOR, chap. i.

My retrospect, as I have repeatedly had occasion to say, opens towards the close of this nineteenth century. But although something short of a score of years only remained of that century, we were able to show some work of progress, for even so brief an interval. There was, indeed, a fairly creditable advance, for that far-back day, alike scientific and general. But as regards scientific progress, which is doubtless the great feature of my theme, my intention is to review it by itself, after we have passed through the first half of the thousand years' retrospect, in its other or ordinary progress. After the first five centuries, as I have already said, the world had emerged from its old limitations of the international divisions of mankind, and had entered upon the advanced position of one homogeneous society, speaking everywhere one and the same language. Meanwhile, until we reach that era, we shall take the social and material progress century by century, selecting, as

we pass along, such instances of change and progress as may form our best illustration. Our opening case is a slight, but by no means an unillustrative incident. It relates—

WHAT BEFELL COURT DRESS.

The late mitigation in court dress was not at all to my wife's mind.—AUTHOR, chap. i.

There could be no doubt that court dress was not originally intended to be laughed at. That is a consideration always to be kept in view. From the sublime to the ridiculous is said to be only a step. But with court dress it might have happened that, by a wrong turn or the wrong door, the interval of a step might have been reduced even to an inch of protecting deal. The thing, in fact, did happen, and not without consequences ; for when the Right Honourable the Lord Vicomte Vrayshaum-Peenyong (the family came over with the Conqueror) had somehow got adrift during a grand reception, and instead of reaching the gracious presence of his sovereign, had emerged upon a hilarious crowd behind, and been taken for a merry-andrew, and dealt with accordingly, there came at last a change to court dress. But still it was not without protracted opposition, sustained, as was urged for it, on the ground of principle, that an understanding was finally reached, that court dress should always be something in good taste.

OUR MOST EXEMPLARY EPISCOPATE.

My next illustration is of wider and more edifying import. It concerned a result by no means unex-

pected about this time; but the particular way in which it came about was, perhaps, just at the moment, as unlooked for as it was creditable to the position and character of those who took part in it. The increasingly abnormal character of the ecclesiastical element that still lingered in our Parliament had become already sufficiently obvious; but between that stage and the semi-revolution of any forcible expulsion, there might have been still no small interval, had it not been for a timely effort of disinterested magnanimity. There had been a fairly maintained secret in the business; so that when the venerable and large-minded primate of that day rose in his place in the House of Lords, surrounded, as pre-arranged, by the full episcopal bench, and claimed attention to a most important statement, neither the House within nor the public without quite exactly anticipated the edifying and most memorable incident that followed.

The distinguished primate opened his brief but emphatic address by the remark that the spirit of the times had changed in a manner and in a direction which the Church could not but be bound to notice, and duly to consider, as to how it affected her usefulness for her own proper and great mission. Would that usefulness be greatest in resisting the modern spirit with its many claims, or in frankly acknowledging and yielding to it? The heads of the Church had well considered their problem, and the solution to which it had brought them. The Church, as it now stood, was helped—or, as he might alternatively put it, was encumbered—by three orders of special privilege, namely, the pecuniary, the ecclesiastical,

and the political. The two first he would remit to the consideration of his successors; but certainly the time had come for the Church to be rid of the last. The primate then went on to intimate that both himself and the other Church dignitaries present would now quit the august assemblage before them never to re-enter it. And then and there, in the silence of the profoundest sensation, he made good his words by himself retiring from the House, followed by the whole episcopal bench.

By this bold and high-minded, but also politic course, our beloved Church enormously advanced her interests, and her influence with the whole people—so much so, indeed, as to materially help her, further on, to enter successfully upon another and still greater step in her history, to which I shall have occasion presently to allude. I must not, however, omit the concluding incident of the memorable event above described. In an after address to the Church, the primate most heartily congratulated her on her now spiritually freed and improved condition. She could now at last, and, as he warmly added, only now, with a perfectly clear conscience, continue to rebuke that corrupt old Church from which, centuries ago, they had been compelled wholly to disassociate themselves, for her selfish longings after her lost temporal power—longings which happily still continued as vain and unattainable as they were selfish and profane.

SPECIAL TRUSTS: THE GREAT SCHEME OF A RESANITATED LONDON.

Yellowly would express surprise that the State had hitherto done so little to turn this sure recuperative principle to the public good. During any thirty years of this century the complete sanitary reconstruction of London might have been accomplished free of ultimate cost.—AUTHOR, chap. i.

When one looks back upon smoky, dingy, old London, as it existed prior to the grand resanitation, or, more properly, the sanitary reconstruction, so successfully entered upon before the close of this century, and realizes once more not only its extirpated fever dens, and its ejected gas and sewage-poisoned soil, but all the obstruction of its narrow, tortuous, and dark ways, in the very busiest parts of the city, it does seem a marvel how our ancestors bore with it all so long. Habit is indeed a wonderful reconciler; but none the less could the citizens appreciate the paradise into which they emerged, through the radically reconstructive changes I am about to record. Nor were we one moment too early in the field, when we began our great work; for the spirit of progress and improvement of the time was already seriously expending itself upon the old and utterly unsuitable lines of the original city. Every year of such work only increased, of course, the difficulties of a general undoing; for an undoing, root and branch, was finally decided upon as entirely indispensable.

No doubt the great Paris reconstruction, which had been continuously at work for more than a generation before we began in earnest with London, had stimulated us by its example. In the emulative race that

afterwards arose between these two greatest cities of the world, it seemed at first generally supposed that London, being so much later in the reconstructive field, could hardly hope to overtake her great rival, and would thus remain permanently second in this resanitation and reconstruction race. But this surmise proved altogether erroneous. We began, indeed, comparatively late, but under enormous comparative advantages, arising out of a wider experience, and more accurate idea of all the wants of the case, as well as a more comprehensive and systematic plan, and greater pecuniary resource, and a more advanced art and science, to give effect to the whole project. Our course was thus marked, not only by greater regularity and rapidity, but by far more variety and excellence of adaptation to the needs alike of the present and of the impending far greater future. In nothing were our later superiorities more obvious than, for instance, in the superseding, to a large extent, of the huge cumbrous masonry of stone and bricks and mortar—a style of the past for which we had no longer either room or patience, in the busy and crowded conditions into which our national life was entering. And in other ways, as we shall now see, we went radically to work, keeping always steadily in view, as I have said, the larger wants of our expanding future.

RECEPTION OF THE PROJECT.

When the minister of the day first announced his grand project, it was curious to mark the earlier effects upon his audience, alike within and without

Parliament. After seeming to be momentarily stunned by the unprecedented boldness and magnitude of the scheme, Parliament and the country gave an unmistakable response in its support. The obviously resolute purpose of the Government had the very best effect. They had declared emphatically, that all the patchings of past years, whether by Boards of Works or various private enterprises, were but child's play with the large evils that confronted them, and that only increased year by year, and day by day. In the highest interests of society, and even in the purely economic interests of the case, and as a question of mere commercial profit and loss, they must go forward to a radical and comprehensive cure.

THE OPPOSITION.

The opposition, although happily in a decided minority, was not the less determined. It was led, in the Commons, by Sir Peter Periwig, one of the City members, and head of the old respected and wealthy City house of Peter Periwig & Co. Sir Peter himself, now well up in years, was one of the "Old Whigs." But although he still gloried in what those, in their day, had done for the country, he would have no hand in the further and upsetting schemes, as he described them, of radicals and revolutionaries. The country, he would say, needed rest and quiet. The modern pace was altogether too fast; and now it was proposed that the Government themselves should, in effect, turn builders and speculators; and thus open up a further and endless scene of dust and noise and national disturbance. He would forbid, deny, arrest

all that sort of thing upon principle. Principle, sacred principle, he would say, should always and everywhere prevail, no matter at what cost, negative or positive. Some years later, as the venerable City member drew near his end, not without self-satisfaction at having done his duty, particularly in his unremitting efforts to stem the noxious disturbance of so-called modern progress, a friend brought him word of the great apparent success, in spite of all his forebodings, of the grand London Sanitation Scheme. But Sir Peter could only turn his head to the wall, and groan out, with his expiring breath, "Nothing but principle!"

MODE OF THE WORK AS TO FINANCE.

In giving some particulars of this great work, let me first touch upon its financial method. Of course the main supporting pillar of the whole project was the expectation that time only was needed to recoup all cost, through the natural advance of value in the city's real estate—"the unearned increment of value," as it used to be called. The Government and the country had at length satisfied themselves of the solid reality of this prospect, and the final result did not at all belie their full expectation. A competent Commission, or Trust, having been appointed with full powers to act wherever and whenever required, and with due exhortation to lose no more valuable time, the business was at once entered upon.

One of the earliest incidents of the case, after the public announcement, and one that was hardly expected by those who looked mostly to costs and

difficulties, was an immediate general advance, amounting to about ten per cent., in the value of all metropolitan property. This was caused, so far as regarded those outside areas which were inferred to lie beyond range of the proposed sanitary reconstruction, by the improved prospects gratuitously falling to their lot through the renovation of the more central areas. But so far as regarded those doomed areas themselves, the said advance in value was caused by the confident feeling that all parties would be dealt with in a liberal spirit, in whatever way the trust decided to proceed. The trust decided to recognize, and support as a basis, this ten per cent. advance. The value, just prior to announcement of the project, was taken as accurately as might be, and ten per cent. was added to it, in consideration of any possible discount at first in the market value of the trust-stock issues, and also on the general consideration of disturbance.

The trust, then, paid its way by the issue of stock as required. This stock was always readily floated at the moderate interest of three per cent. The national consols were, by this time, as we have said, a two-and-a-half-per-cent. stock, so that this trust stock, although occasionally at a slight discount at first upon any great pressure of sales, rose eventually to a substantial premium. All proprietors were exhorted rather to hold to their properties than sell them to the trust. They would thus co-operate with the trust in the resanitation, and would be liberally assisted in so doing by pecuniary advance, as required, in the form of stock from the trust. In those other cases where the parties preferred to sell, or where they

were swallowed up in the grand new alignments, the trust bought them out upon the terms above stated. All such purchases, with the various reconstructions raised upon them, were held by the trust, until the price obtainable repaid all costs. They were usually leased meanwhile for long terms, with option of purchase to lessee at the required amount—a mode which mostly led, comparatively early, to a final settlement in the way intended.

AN EPISODE OF THE PROJECT.

We halt a moment to glance at a rather striking episode of the business. The original estimate that about one-third of a century would accomplish all this reimbursement seemed in fair way of proving correct, had it not been that an additional object had come into view on the road, so as to protract further the final settlement. This was no less than the proposed concurrent extinction of the large city debt, contracted mainly by the preceding Board of Works. Indeed, the municipal corporation—now a large and important body, having jurisdiction over the entire metropolis—impressed, through the approaching evident success of the trust, with the magical effect of mere lapse of time, had early put in a word for itself and its many expenses. The hope of being grafted on, in some permanent way, to even some small fragment of the trust, was enough, for the moment, to arouse visions of boundless and yet costless hospitalities. The Government, however, answering for the trust in this particular contingency, firmly, and even sternly, repelled all wooing of favour in that direction. But

the other consideration appeared more worthy and more reasonable ; and thus it came about, that the great resanitation project not only cleared its own cost, but by a further protraction of the trust, which carried it far into the twentieth century, it extinguished also the considerable antecedent debt of the city.

GENERAL PLAN OF THE WORK.

Leaving now the modes of finance, let us turn to the other modes of our great work. The trust encouraged originality of idea, and both invited and rewarded new suggestion on every hand, as was only fitting, in an era of quite new conditions, which it was itself busily opening. Amongst the very first questions encountered was that of the new foundation ; and happily it was here decided to eject entirely the old and fetid soil, and reconstruct the city over a clear and roomy subterranean, where all the advancing art or science of the future, in lighting, sewerage, water-supply, and applied energy in general, might be accommodated with full and undisturbed, as well as undisturbing, play. Getting thus healthfully rid of the whole poisoned old subsoil was further convenient in placing the central city of the future upon one level. The lofty and spacious subterranean, which was quite a feature of the new plans, and became a chief advantage and facility of after city life and business, was due to a practical consideration that, however cramped we might be for side room, there was unlimited space at disposal both beneath towards the earth's centre and above towards the heavens.

All this great mass of ejected soil proved a con-

venient supply for another great work of that time, namely, the completing southern embankment and continuation to the lower Thames, a project which was also transformed into a like self-defraying trust. I may here further mention, that the latter trust developed, later on, into that far grander embankment and reclamation of the Thames' mouth, by which, as I have already said, through protraction of the trust into the succeeding century, hundreds of square miles were successfully added to the national territory. Not the least useful or enjoyable consequence of this great project was the bold and happy idea, so successfully realized, of diverting the river, by short direct cut, to Blackwall, instead of its old roundabout by Greenwich. The emptied river-bed, over the great space thus acquired, supplied a valley of health, recreation, and beauty to succeeding generations, and secured a blessing from millions of nursemaids and hundreds of millions of happy juveniles for centuries after.

SOME CHIEF FEATURES.

Some of the more important features of our re-sanitised London may be here referred to. If the changes seemed, in some instances, extreme at the time, they were always afterwards justified by the expanding wants of the future. We reversed, of course, that old order of things, by which our streets became narrower and more twisted as we approached the central and more crowded parts of the city. The streets there became, indeed, of quite unprecedented width. But there was no great loss in that way after all, owing to the unusual height we could now give to

the buildings, whose loftiest accommodations were easily and promptly reached by perpetually acting lifts, and whose smokeless roofs were eventually walks and gardens, which added a great resource of health and attraction to future metropolitan life.

Of course, too, in these days of science progress, we were done with the smoke nuisance. Lighting by electricity, and heating by various other than the old coal-smoking ways, had already made such progress, at the time we are now dealing with, as to warrant the trust to altogether proscribe smoke and smoke chimneys to the renovated city. Consequently new London arose entirely smokeless.

The light terrace structure, which surmounted a lofty ground floor of warehouses, factories, or shops by a walk for foot passengers, led eventually to much novel change and improvement. The streets were bridged over at intervals, in order to make these upper footways continuous and universal; and by this resource for pedestrians, street accidents, previously of alarming frequency, became wholly things of the past. The city, in fact, had now settled itself into three tiers of business life; first, the subterranean, where, as we saw, the great battle of the wants, conveniences, and necessities of the society overhead went on, and where also various merchandise reposed in such spaces as could be spared from the pressure of other and prior demands; second, the ground floor, where the productive and the wholesale, together with all the vehicular traffic went on; and, lastly, the upper level of the first floor, devoted to foot passengers, and to all the retail shopping and general locomotive life of the pedestrian public.

Again, the locomotive system for passengers must needs follow its customers from the underground to the upper ground, to which, as regarded railway conveyance, they mostly now confined themselves. This was so far foreseen from the first, in the arrangements made for an elevation-railway system, which crept in very quietly behind the grand fronts, and within the huge blocks of the new city. Here countless trains, running over noiseless rails, long provided for our locomotive wants, until, in after centuries, crowded off the surface into the roomier areas of the atmosphere above, to which our travelling has since been restricted.

No feature of reconstructed London was more of a surprise upon the old stereotyped building idea than that of the rapidity of the reconstruction. Our ideas, in regard to the art of building, under the new opportunities and circumstances now presented, had completely changed, alike as to the space allowed, and the time sacrificed, to building. The old leisurely ways, over huge masses of damp stone or other masonry, had been to a large extent exchanged for light but strong and, indeed, practically everlasting structures of steel and tiles and glass, which were put together with unprecedented cheapness, precision, and despatch. One of the new streets, in the earlier years of the reconstruction, had become famous for the unprecedented fact of its having been commenced and completed all within a single week. This was the triumph of a supreme effort of its time. But even this wonder of its day was destined to be easily surpassed by more practised skill, and still more precisely adapted masonry, farther on. Indeed the

art or science of dwelling-house, warehouse, or factory structure had quickly passed out of all its old dilatory, and other variously backward and costly ways. That once insoluble old question of healthily and comfortably housing "the poorer classes"—if indeed we could so continue to speak of the well-off masses of the people of the twentieth century—was thenceforward a thing to be accomplished almost at once, as we may presently have occasion to see, and that not by mere thousands of dwellings at a time, but by millions, as required under the improving dispensations of those days.

Another striking feature of change and improvement, which afterwards left its mark largely alike over town and country, was that of the light glass roof, thrown over our streets, by way of protection from the chill air and weeping skies of our Old England climate. This great step in the direction of business convenience, as well as social comfort and resource, was assisted by other concurrent circumstances. For example, we had already begun to dispense with the cumbrous and costly live quadruped to help our locomotion, and to substitute for it the more cleanly and manageable life-electric. Consequently, unlike Paddy and his pig of old, in common occupation of the home, we had no quadrupedal company even beneath the ampler area of our new glassy sky, and the feature of stables, as well as street manure, had alike vanished. The rapid substitution of electricity for steam, in our locomotive and other uses, was further in the same acceptably cleanly direction; and not less marked in the same way was our chemical progress, which was already dealing, promptly and

innocuously, with slops, sewage, and refuse generally, as now amongst even the profit-making, as well as the scientific and respectable, vocations of an advanced society. But all this cosy, comfort-making system did not distract attention from adequate ventilation everywhere. The trust commission had made a point of stimulating to the utmost all novelty, ingenuity, and originality of adaptation; but none the less was a vigilant general supervision exercised, in view of the fact, that the great aim and end of the trust was sanitation.

There are still some interesting points, in looking back upon this great work—great, at least, for its day, even although we, from the grand modern platform, may think to look down upon it as amongst the smaller matters. A lofty and magnificent arcade arose in our city centre, within whose ample area all the chief branches of public and ordinary business, the public offices, the banks, the exchange, and the stock exchange, and the railways, could conveniently enter an appearance. When most of these were afterwards crowded out, they took refuge in more roomy quarters, as we shall see in our succeeding section, in treating of the feature of the concentration of the public offices. In these and other conveniences of progress, we were not, as I have already hinted, a day too soon in the vigorous rivalry of the international race. Our great rival, Paris, in particular, was ever upon our heels, and never closer than in the leaps and bounds into extension and wealth which followed upon her great ocean-canal construction, direct through the capital, from the Northern Channel to the Mediterranean. We were indeed later, but with quite equal

effect, with our own great ocean cut, which, quitting the embanked and deepened Thames at lower London, passed off southwards direct to the open sea, thus leaving the Calais-Dover narrows, and their vicinities to north and south, to the reclamation projects of those times, which eventually restored that *terra firma* between us and continental Europe, which geologists before assured us had been filched from us and our neighbours by our once restless and invading but now subdued old enemy, the sea.

CONCENTRATION OF THE PUBLIC OFFICES.

In exact reversal of the old practice of the greatest possible scattering of the public offices and institutions.—AUTHOR, chap. i.

Many considerations were conjoined in demanding the concentration of the public offices in some one suitable situation, and their removal from the denser parts of city life. Not the least of these considerations was the possibility thereby, through swift and incessant railway connection, of bringing every citizen practically nearer to each and all the offices, than was possible under the old scattering system, by which every public office seemed, as though by natural electric repulsion, to keep as inconveniently far from its fellows as possible. But there would have been no chance whatever for so novel and disturbing an idea to dislodge us from the habitual old groove, had it not been for the arousing effects of the unavoidable demolition of most of our public offices, in common with the countless other structures which collapsed under the great resanitation procedure. When the

affirmative decision as to this concentration system was finally taken, there was happily space sufficient still available in the convenient vicinity of London. There, then, in due time, arose the grandest and most multifarious edifice of its day, and perhaps of any time preceding; for in this particular case, as in that of reconstructed London in general, care was taken that the measure of the wants in office accommodations should be rather that of the expanding future than of the limited present. The ground floor embraced postal and telegraph, customs and taxes, police and justice, and those general governmental departments to which the public have daily to resort. The floors above were reserved for the departments of thought, study, and general work. There, accordingly, was all the afterwork of the offices below; there also sat our Parliament, revelling in the roomy fresh-aired suitabilities of the new quarters; and there, too, was collected and ingeniously arranged the contents of our comprehensive British Museum, presented upon one spacious floor level, and magnificently surmounted and lighted by the grandest dome in the world.

This novel structure was also the successful result of a special trust, created after that way of those times, by which so many great works, not perhaps otherwise to be attempted, were promptly and easily accomplished. The costs, in this particular case, were recouped chiefly from fines, fees, and rents levied on the various interests and parties supplied or benefited, as well as from the realizations from the superseded old sites. But it was still possible to spare not a few of these latter as spaces permanently open for the public. On finally winding up this

remarkable trust the State was able to reserve the vast centre of the ground floor, which eventually became, as was foreseen and intended, the active focus of the commerce and finance, alike of capital and provinces, and indeed of the whole commercial world; and whose rentals, estimated by the square inch of such almost priceless space, yielded a magnificent and ever-increasing endowment for science.

OTHER SPECIAL TRUSTS—THE NATIONAL DRAMA.

Reed thought that the State might intervene to rescue and maintain the drama.—AUTHOR, chap. i.

A general feeling prevailed about this time that the drama had not had due justice amongst us, and that in some way of public support something effective should be done in order to give it the high and prominent place which it should hold as being really by far the most effective agent, alike for the instruction, the indispensable recreation, and the mere pastime amusement of the people. The State, therefore, decided to intervene, and to do all that seemed necessary for the cause by means and pecuniary aid of a special trust. Nothing was spared towards having everything of the best and most suitable, from the noble material edifice which duly arose in the new cause, to all those social and moral considerations and arrangements which were to insure the desired respectability of the entire dramatic connection. Towards this important step of dramatic progress there had been some previous successful effort, chiefly in the establishment of schools for dramatic education, and thus great numbers of both sexes had taken

an interest in dramatic training, as the best means of modulating voice and action into their most effective display. This commencing intervention was to be limited to one great experiment for the metropolis, in the expectation that private enterprise would follow the example elsewhere.

All this dramatic enterprise was not immediately, although it was eventually, successful; and thus this trust, by itself, might have pecuniarily failed, but for the averaging system which was applied to such lesser or more precarious trusts. Either several such trusts, of varying financial prospects, were bound financially together, so as to afford an improved chance for the eventual solvency of the whole, or, in the last resort, any lingering case might be tacked on, as a second charge, to some other of surer prospects, as was so successfully done with the old London municipality debt.

Theatrical exhibitions never inconsistent with good taste, and a theatrical troupe every individual of which was a respectable member of society, and everywhere acknowledged and received as such—no less than all this was the aim and object of this novel trial of a trust. The scale of things in all the appointments of this national recreative department was commensurate alike with a due sense of the importance of the object, and of the possible magnitude of the audiences to be afterwards dealt with. We owed much of subsequent dramatic progress to the excellent influences thus brought to bear upon dramatic life. Acting became even a favourite recreation of the young of both sexes, and indeed more or less of a disciplinary educational training. The

timidity and diffidence of the beginner was helped in a curious and amusing way by the scientific perfecting of the compound-reflector principle. A lifelike reflection of the actor was thus projected upon the stage, while he himself, in all the seclusion his modesty demanded, and with the prompter conveniently at his ear, executed his dramatic part.

This dramatic trust had selected for its grand edifice a site adjacent to that of the great offices concentration just alluded to. As other institutions followed this example, including, in particular, the chief scientific societies, this now classic area became by degrees the vast and ever-expanding centre of a comprehensive public life. The theatrical accommodations were of necessity extended at intervals in subsequent times, to meet the increasing audiences; and accoustic and microphonic science maintained a fair concurrent pace in this everlasting advance from the smaller to the greater. But with great areas to be dealt with, there was a tendency rather towards scenic and pantomimic representation. This was entirely to the taste of the juvenile world, who, as ever, the chief audience, had their own rights in the case, and doubtless got them attended to.

In the free universality of dramatic range the stage could take an educational and scientific direction. Thus countless school-youth were fascinated by the vivid drama of the earth's geological development, or of the genesis of our solar system, presented in accordance with the latest scientific inferences and discoveries. As the stately solemnity of the panoramic march progressed, accompanied usually by suitable strains of music, the great clock of time was ever an

essential part of the scene, his seconds thousands, or his minutes millions of years. In the astronomic development, the vast nebular mass was dealt with, and its transformations followed into a central luminary with all his planetary surrounding. The most interesting and exciting drama was wont to be the geologico-biologic progress of the earth, culminating in the appearance of man upon the scene. The audience were wont to be artistically wound up to the highest pitch of expectation as the climax approached when the noble or ignoble savage, but yet unmistakably a man, first leaps upon the stage from his tree, his cave, or his wigwam. But the edge of romance was afterwards sadly turned when the "missing links," one after the other, were restored: and when at length, a beetle-browed, prognathous, long-armed, dubiously footed, and black and hairy ancestor scowled antipathy and defiance at his hardly recognizable descendants. The true, says science, is happily often, but not always, the beautiful.

HOUSEKEEPING ECONOMY FOR THE MASSES—MECHANICS' HOTELS.

To secure twice the comfort at half the cost of previous opportunities and experiences.—AUTHOR, chap. i.

Ere the nineteenth century had closed, it witnessed the successful inauguration of a cheap, convenient, and promptly ready mode of living, suited to the narrow circumstances and small means of great numbers of the people, and not less promotive of social enjoyments. This was the hotel system of living, and particularly in the extension of its adapta-

tion to the mass of the population. This system previously had been much more developed in America and elsewhere than with ourselves; but we eventually carried it out with a comprehensive application surpassing all precedent, and we thus solved, more effectually than anywhere else, the previously hard and protracted problem of the sufficient and healthful housing of our poorer population, at expenses still completely within even their limited means. Our special trust system was not needed in this business, extensive and national as it was, because the profits of the enterprise were sufficiently obvious and attractive. After some experience in this right direction, it was soon seen that there was more economy of management, and readier adaptation to wants, than could have been expected in such an application of the trust system.

One point chiefly to be noticed in this system was the custom, which eventually became general, of the hotel occupants purchasing respectively the small but separate houses they occupied in the common edifice, and effecting this object by means of regular small payments spread conveniently over a few years. The additional sum required weekly of the tenant for the ultimate redemption of his house was even more than saved by the economies of the system. Ere very long the tenants found themselves transformed into owners, and such great hotels—edifices of unsurpassed grandeur they became—entirely their own property.

These great and convenient combinations of houses took the name of Mechanics' Hotels; and the mechanics' hotels of the twentieth century, like the mechanics'

institutes of the century before, took their high status as well as their important social position. With the aids of experience and good taste, they became as elegant as they were comfortable. Each hotel had usually one or more great halls of common association; and these, comfortably warmed and brightly lighted, were the cheerful resource of all the company, and usually the scene of much rivalry of varied programme for the evening's recreation. We have already noticed the fact of the old public-house, under its coarse and ungainly aspect of the nineteenth century, having virtually disappeared from our social life in the course of the twentieth. This was chiefly due to the universal rise of these mechanics' hotels, whose bright and home-surrounded halls proved far the more attractive resort for the tired, and rest and recreation-seeking worker.

When some experience and success had smoothed the general way, and more especially the financial way, with this co-operative houses' system, the intending tenants were able, with much comparative advantage, to deal directly with the builder or the capitalist. Indeed, it became no uncommon thing for some hundreds or even thousands of families, after agreeing amongst themselves for a co-operation of this kind, to make terms direct with the builder, and, in those prompt times, to be comfortably housed in their completed edifice, all within a few weeks of the first step in the cause. Thus, under the economies of this system, amounts of daily or weekly earning, previously quite inadequate to support healthful life, were now even more than sufficient; and society was thus permanently secured against the difficulties and

distress proverbially inseparable from its masses. Society had now, indeed, at last, begun effectively its march towards that enviable stage, afterwards substantially attained, where every component individual was well educated and well mannered, well dressed and well off.

NO LONGER "IRELAND OUR DIFFICULTY."

The nineteenth century, which had begun so badly with us for Ireland, did not promise, just at the opening of my retrospect, to close very much better. But it did close very much better, indeed, ere the century ended, and I am now about to tell how. As the first facility in the way, all parties were at length cordially agreed to regard Ireland as an entirely exceptional case. The abstract must be freely sacrificed, if we could thus but secure the concrete. There were two duties before us ; first, to put down the rampant crime to which extensive and protracted social unsettlement had given opportunity ; and second, to settle to the utmost possible, the resident Irish people as proprietors upon the Irish soil. A resolute hand being brought to bear, both of these objects were at last and concurrently accomplished.

To eradicate the criminal elements, after a long reign, which was latterly of almost complete impunity, was no easy task. But it was at last undertaken in earnest, after repeated appalling outrages had aroused the entire country, and exposed more clearly the enemies to be dealt with. A thoroughly detective system, aiming directly at criminals, was the chief want, rather than extraneously coercive general

measures, bearing grievously as they did upon the whole people. Accordingly, for a time a detective police covered Ireland, alike to defend and encourage the good as to restrain and ferret out the bad. The law descended when necessary to the level of the lawless, in order to fight secrecy and secret societies with the like weapons. As the law had a comparative infinity of resource in the sinews of war, it must needs prevail, if it would but put forth all the needed strength. It did so, and, as was fit, it prevailed. If it had to fight at times in mean and inglorious ways, that was because its enemies were no otherwise to be met. But the one fought to preserve, the other to destroy, society. In the end, Ireland became as much a part of us as Cornwall or Northumberland, Wales or Scotland. The fine Irish character was quite restored, the ill-temper, as the souring of centuries of injustice, all dispelled, and the social and economic circumstances, if not entirely, at least very largely, changed for a better future.

We had happily agreed in Ireland's exceptional case, as I have said, to allow ordinary modes and principles to be slapped in the face at discretion. When neither land laws, nor land commissions of the past would or could adequately attain the object, we attained it by further and stronger means. When the object must be attained, the means must be such as would attain it. When the way had been cleared by a final settlement of the arrears of rent question, the bold course of limiting by law the territorial holding to such value or area as might alike do most justice to the land, and place the greatest possible number of Irish families as proprietors upon

Irish soil, soon brought about, by graduated process of self-action, all the intended change and intended condition. Reasonable and necessary exceptions to the general rule were provided for.

Although the special trust system, which finally and so effectually resolved this great Irish problem, was not applied at the very outset, it soon approved its suitability in a field of such noble dimensions, and converted the hobbling pace of the earlier efforts into express speed. The sweeping measure of limited landholding, of course, settled promptly and impartially the fate of the old proprietary, who, however, were by this time, in the very great majority of instances, by no means averse, under all the circumstances of their case, to join in the general surrender. They were met by the trust in a generous spirit, on the equitable principle, that "compensation for disturbance" should have universal and not mere class application.

At the outset of this great trust operation, the Government were called upon to make a most important declaration. It had been suggested, on behalf of the intending investors in the trust-stock issues, that, from their vast mass, the future debtors to the trust might eventually combine to ignore their obligations, and thus affect the solvency of the trust, and the ultimate security of the stockholder. But when the Government had tendered a solemn assurance, to the effect that the whole force of the law would certainly, to the very end, hold the land to its full obligations, the stock, thus duly accredited, was taken on such favourable terms by the general public, as to reduce materially the cost of the lands to their

respective purchasers. And further, by considerably extending the term of years, the yearly rent and redemption payment made together actually a smaller amount than the current marketable rental.

One of the happiest features concluding the case, and a result not entirely unexpected, although the reality probably exceeded all expectation, was the substantial advance in landed value all over Ireland, as this great territorial resettlement approached its completion. The effect of this advance was to diffuse at once financial ease and comparative plenty, together with all the contentment of such a condition, throughout the whole country. In after years Ireland's exceptional land limitation measure, when no longer required, was repealed ; and with this the last lingering difference between the two sides of the Channel was finally abolished.

CHAPTER VIII.

THE TWENTIETH CENTURY: SOME OF ITS PROMINENT
FEATURES.

It would not be until the twentieth century that we would begin to feel the full benefit of the educational and other good foundations laid in the nineteenth.—AUTHOR, chap. i.

In the twentieth century we began to reap substantial fruit from the seed sown in the century before. We had now, for example, the effects of the great education measure; for early in the twentieth century the last of the uneducated masses of the old society had died out. We have now, therefore, to see how universal education comported itself. No doubt the evil as well as the good tendencies of human nature still remained to society; but the field for the former was gradually narrowed, while that for the other was proportionately enlarged, by the ameliorated conditions of all life and business work. But before selecting some few of the prominent illustrative instances of the century, let me give a striking episode of its commencement, which, however, I am happily able to describe as only

A PASSING TRANSATLANTIC FAMILY JAR.

A Canadian Fisheries Question is once more upon us. The "Dominion" had by this time consolidated

its authority over the entire vast area of British North America, and the colonial tone, on this old and irritating question, was again none of the weakest. The Home Government, even when hardly approving colonial inflexibility, felt disposed, at this particular conjuncture, to show that a colony's quarrel was their own, seeing that certain Cassandras had been predicting that the empire was to be gradually sundered for want of a thorough political union. The Imperial Government would therefore take this good opportunity of practically showing them that they were mistaken. But in despatching, for this special purpose, a full imperial regiment, to be stationed on the Dominion frontier, the susceptibilities of the United States were carefully guarded by explanatory assurances that nothing beyond this imperial formality was meant. The States accepted the assurances, but at the same time despatched a like full regiment of their own to meet the other at the frontier. This move and counter-move did not tend to mend matters, and there was free talk on both sides of even immediate levies in the rear to support each regiment.

The two regiments at length hove in sight of each other. Each had marched forward because the other was marching, and each by calculated pace to meet the other at the frontier. When within speaking distance, both sides instinctively and simultaneously halted, each ready for battle, and each grimly surveying the other. It seemed as though the slightest impetuosity or indiscretion would precipitate mortal international combat. There had been, indeed, strict injunctions to either side not to begin an attack. But this was not known until afterwards.

At this critical conjuncture, an old man stepped forth from the British side. He was the senior in years in his regiment, and was looked up to accordingly. Walking up to the dividing line, which was there still clearly cut in the primitive sod, he stood across it, and stretching his arms to both sides cried out, in a strong clear voice, intensified by evident emotion, "The Old Mother's call is to all her children." The effect was electrical. The soldiers on either side at once rushed forward to the common boundary, where, throwing down their arms in an indiscriminate heap, they each cordially grasped the other's hand. All danger was thenceforth at an end; and in the subsequent official arrangements each side seemed only to vie with the other in yielding, to the now recognized common brotherhood, the points upon which they had before so seriously differed.

CLUB LIFE AFTER THE NINETEENTH CENTURY.

The moral must accompany other progress.—AUTHOR, *passim*.

The Club, in the wide generality of its use, was specially a nineteenth-century feature of our town life. But the twentieth century had not only kept up, but even much extended and improved the club features of its predecessor. Not only was our country's population greatly increased, but, from the circumstances first alluded to, the proportions of its educated, well-mannered, clubbable element, were of necessity increased in a much greater ratio. While the clubs of that time took a great membership extension, together with accompanying palatial

accommodations, all which were successfully realized, chiefly by resigning their catering difficulties to strictly professional hands, and while they advanced also as centres of art and science, I am at present more interested, as to club life, in certain features of social advance which it also presented. A society owes more than, perhaps, it usually thinks or confesses, to the honest straightforward purpose, sound natural feeling, and good common sense of those masses of the people, who, with proper ambition, are ever surging up into its ranks with the world's progress. Thus we have had more just, humane, and suitable laws; and thus, too, we had, in the enlarged society of the twentieth century, an improved public moral sentiment, and improved club life.

Where there is already the predisposition, incidents, small in themselves, may lead to great results, as when a small trigger fires off a huge gun. One of our grand clubs of this time furnished another illustration. An altercation had arisen between two of its members, ending in a personal assault, the assaulting party pleading in defence that he had been provoked by ungentlemanly bearing. The case, famous as it afterwards became, was simply this. The complainant had been accosted, in gay hilarity, by the other, in order to introduce the friend and fellow-member on his arm, who, as he explained, was aspiring to be the very pattern of virtue; for whereas he was wont, in younger and stronger days, to seduce a woman once a month, now that age's infirmities began to tell, he was content with only once a quarter, and by-and-by would be so correct and pure, that

ordinary mortals must hide their heads. He of whom all this was told laughed most heartily ; it was, as he remarked, such a capital joke. But the other, to whom the said joke was addressed, at once turned his back ; and, when again confronted for an explanation, only repeated the offence. Thereupon followed the angry cane over the offending back.

The magistrate's settlement of the matter next morning, with the usual fine, and the usual parental admonitions, went for nothing. When the two gay friends understood that the club would be moved for no less than their complete expulsion, they both laughed outright, and seemingly a goodly and sufficient muster of backers were ready to laugh with them. But a great battle upon a great principle was being prepared for, and as preparation went on the laugh on the one side was proving to be much more loud than general. Alarm therefore set in upon that camp, and apologies and testimonials were raked up, especially for the gay Lothario himself, who was expected to be chiefly, if not solely attacked. The social laxities in question, it was admitted, were sadly much too common ; but their friend was, after all, no worse than many other people, who are yet deemed perfectly respectable ; and besides, from his having been in the army, some excusing allowance was always of course due to the too ample leisure of the soldier. Then a rector or two, and a still larger number of curates, further testified to all reasonably decorous externals. It was also in evidence that the gallant officer had not hesitated to exchange regiments in order to avoid India, whose climate did not suit his constitution, it being ever a soldier's first duty to

maintain his health at its best for the service of his country.

But all was of no avail, and Lothario was cast out. His jocular friend, too, was sent after him; for it was held that to speak so lightly of such grave social delinquencies was even a grosser outrage upon good manners than the commission of the offence. Such loose speech was especially injurious to the young; and it is chiefly as to them that even mere external proprieties have inestimable value. The remarkable movement, thus begun, extended generally through the clubs; and such of them as lacked the moral fibre for the proper scavengering of the house were relegated to a second rank, to become a sort of demi-monde of club life.

But the new views were not without their difficulties of practical application. Here, for instance, is some well-known old sinner, but now quite venerable from age, its infirmities, and its proprieties. There can be no possible doubt about his past life, for he was wont openly to boast of his successful libertinism, and he showed at the time the lightest of hearts over the track of human misery he might be leaving behind him. But when age, or early excess, or both together, had deprived him alike of power and enjoyment in the old way, he became a changed, nay, even a religious man—became, in fact, “rather more respectable than other people.” What, then, was to be done with this perplexing specimen? When his parson might be assuring him that he was safely qualifying for heaven, was he to be deemed unsuitable company for a mere earthly club? But by this time, alas for, at least, his earthly prospects, a spirit of true equity had set

in as regarded the treatment of the two sexes in such questions. When this justly dealing knife was now applied to the cord, the cord snapped, and the offender was dropped out, all his later respectabilities and religious tendencies and his conditional penitence notwithstanding. There were not wanting those who at the time thought all this to be hard measure. It was so indeed; for the parties in question were, in fact and of purpose, dealt with as hardly, well-nigh, as had previously been their victims of the other sex.

A characteristic incident occurred in the course of this great social resanitation of the clubs. This was no less than a most cordial acknowledgment from the President of the United National Trades Unions of that time, on behalf of countless parents and families, directly interested for sisters' and daughters' well-being. The president, at the same time, took the opportunity of remarking, that certain previous exhortations to temperance amongst the working classes, made in admittedly good and friendly spirit by the clubs to the unions, and not altogether disregarded by the latter at the time, would have been very much more weighty and appreciative had they come after, instead of before, the exemplary procedure in which the clubs were then engaged.

WOMEN'S CLUBS.

Woman's equal right to all she finds to suit her.—AUTHOR, chap. i.

Trade unions for the working-woman was already a feature of the nineteenth century, as were also ser-

vants' institutions, homes, and such-like, promoted from outside their own ranks. But the woman's club, so far as it was the full counterpart to that of the other sex, belongs properly to the twentieth century, in which, indeed, it took a prominent and widely useful part. There was this difference, however, in the two cases, that whereas club life, with the stronger sex, began as an upper-class feature, with the other sex it began in quite the opposite direction. The first attempt at what was properly the woman's club was on behalf of the great class of domestic servants, and had chiefly in view at first the sure provision of an independent and comfortable home for the later life of its members. But the club was also largely available for Sundays or holidays, and for intervals between engagements; and it was ever, with its protecting respectabilities, a resource and shelter, more especially to the young and the stranger who were first entering life in the large towns. At first only the simpler arrangements were attempted, by which, in exchange for small but regular contributions spread over the earlier years, an independent home was secured towards the end of life. But in after years, when women's club institutions, made applicable to female vocations in general, became universal, and upon a scale previously quite undreamt of, they were enabled, by a kind of affiliation to one or other of the great general insurance companies of those times, or to some section of the Government insurance system, to secure any special arrangement that more exactly suited the endless variety in the wants of a well-nigh countless membership.

This commencement of the great future institution of woman's club life was made just prior to the close of the nineteenth century, and arose in London out of a great public meeting at the Mansion House, convened by the then philanthropic Lord Mayor. His lordship had remarked that, although overwhelmed with other work, he must find a spare hour for so excellent an object, even at the cost of making twenty-five hours to the day. The intention was that the domestic servants themselves should be summoned, to take up and carry out independently their own cause. More than a thousand attended, and the result was a complete success. Ere the sun of the twentieth century broke over us, this section of club life was already a distinctive and beneficial feature of the social life of the time.

Other classes and vocations of the sex afterwards fully established their respective clubs. There were, for example, dramatic clubs, in which the amateur and the professional freely mingled, and which not only met the convenience, but powerfully helped to guard and maintain the respectability of the dramatic corps. The legion of postal telegraph and telephone employées had also their clubs. Further, there were clubs in connection with female medical practice—a sphere of woman's work which the twentieth century saw fully taken up, and which was generally acknowledged to be as entirely becoming, as it was entirely indispensable, to sexual delicacy and proprieties. Lastly, were the political clubs; for in this twentieth century the franchise had passed to both sexes alike; and not without a distinct political advantage, as the tendency of the female vote had been rather towards general

good qualities, as distinguished from the male-vote tendency towards mere party qualities, in candidature. The collective female vote acted as a kind of Upper House of the franchise, whose calmer consideration ever tempered the storms of the Lower Chamber, the male vote.

A TRADE UNION CRISIS OF THE TWENTIETH CENTURY.

Yellowly, ardent unionist as he was, was not blind to union defects.—AUTHOR, chap. i.

Speaking colonially, we of the mother country were wont to complain or regret that what is called, or miscalled, “Protection” had re-arisen in some of the colonies, after argument and experience had finally disposed of it at home. And so might it have been said of the particular kind of trade-union crisis I am now to allude to; for the kind of event in question could still arise upon colonial soil, at a time of the twentieth century when it was deemed an impossibility upon the more advanced home ground. The scene in this colonial case was Australia, and the occasion of it was one of those great commercial reactions, which had not ceased to be a feature out there, in company with all the general forward advance, there as well as elsewhere, of the century. When employment fell off just at this time, and wages seriously dropped, the colonial unions most directly affected took up the cause of labour, and maintained that the Government should intervene, and, by means of public works or otherwise, continue the full employment and fair wages of the past. What was the use of a Government, they said, if not to help in a time of need the

most important sections of society under its care? There were still means in hand to do this, and when these ran out, more could be levied from the ample resources of the whole society. The government of the place and the day were in dire perplexity; for while they felt that such a directly class demand must be resisted, the unions in question, with their great numerical power in the franchise, threatened a successful political opposition if their demands were not satisfied.

At this time our illustrious Yellowly, the great trade union reconstructor, was still alive, and, notwithstanding advanced years, still busy in completing his reformatory work. He still was, as he had long previously been, the honoured president of that great representative body, the United National Trades Union, which he himself had instituted as the kind of Upper House, or High Court of Appeal, of union life. Yellowly, as head of the home unions, on this serious and compromising occasion, had at once telegraphed to those at the antipodes, in entire disapproval of this demand. While exhorting the colonial Government to make no surrender whatever, he promised a prompt support from the great body of which he was head, and of whose decided mind on the subject he entertained not a doubt. Such crises, he said, were the liability indiscriminately of all classes, and the Government could not help any one in particular except at the cost of the others. Hosts of clerks and other employées were ever being thrown out by such crises, and legions of sewing-women were in crises more or less every day of the year, and yet never dreamt of appeal to Government. And were our

hardy working-men to be the only class unable or unwilling to face the contingencies of their life and lot?

The great home union was at once summoned to discuss and pronounce upon the question. The telegraphs and telephones of the day could accomplish that business with equal ease and promptitude. It was not necessary that all members should attend personally, for even at Land's End or John o' Groats they were enabled, by telephonic connection, either to speak or to listen to central London, much as though personally present within the hall of meeting itself.

Nor was opposition unexpected; for the views in question were the still lingering remnants of tenaciously held unionist ideas of the nineteenth century.

The great assembly duly met, and the discussion, waxing warm at times, was protracted almost beyond precedent. Yellowly, in his presidential chair, strengthened by the excitement as well as the importance of the occasion, sat erect to the very end. When discussion was exhausted he rose to put the question, and by a large majority carried the case against the Australian co-unionists. The chairman congratulated his class-fellows upon the proper victory of equitable and reasonable views.

That famous discussion marked a trade union era for the entire empire. The opposing unions at the other side, as the Government there most cordially apprised Yellowly, had loyally accepted defeat, and at once abandoned all their claims and designs. But the victory was dearly bought. The venerable president, who had greatly overtaxed the strength which

ninety years of busy life had left him, broke down after concluding the labours of that protracted sitting, and was taken direct to his bed, from which he never again rose alive. But his memory remained behind, and we shall come upon his work again ere long in the course of our retrospect.

SOCIAL RESANITATION—A DISPOSITION TO TAKE SOCIETY'S
EVILS THOROUGHLY IN HAND.

We needed quite a new departure in mendicancy and crime.
—AUTHOR, chap. i.

No feature of the life of the twentieth century was more striking than that of the resolute struggle into which we were then plunged, for a thorough social and moral resanitation. The resanitation of the other or material kind, already alluded to, which had partly preceded and prepared the way for, and partly accompanied this present movement, and the success of which, in the case of London, had promptly spread its benefits to other of our chief cities and towns, had powerfully helped to turn public attention in this new direction. The end in view was no less than the complete extirpation, on the one hand, of all the hereditary professional criminal element, and on the other of all the diversified heritage of professional mendicancy; that is to say, of every form of begging, mendicant tramping, gipsying, and general vagabondage throughout the country.

It was no small help towards these great national purposes that the age teemed with stimulation and suggestion. Necessity had laid its hand upon society; for besides the fact of the increasing density of the

population, which was thus with each passing year more and more unsuitable for every form of unsettled life, there was already beginning to be felt the direct effect of the sanitary reconstructions going on, not only in London itself, the prime mover in that way, but also at the other chief urban centres, in turning all the criminal class out of the long-accustomed dark dens and recesses of old town life, which had previously sheltered from common view the hosts of those owls of the night. Nor must we forget the stimulus imparted by a universally educated people, who could thus more clearly apprehend existing social defects, and understand how best to grapple with them.

There was in particular one conspicuous feature of the new movement. Listening at last to the repeated admonitions of science, we had now turned our attention to repressing, by all reasonably practical means, the progenital continuation of the bad or worthless existing elements with which we were thus so vigorously waging war. "Like parent, like child." We might securely dispose of the hardened parents, so that they should no longer harm the rest of society; but if they freely left their brood to take their place, all of society's work had simply to be done over again, and even upon an ever-increasing scale. Already we restrained lunatics from leaving behind them a like lunatic offspring. Thenceforward, in that way, our restraining efforts were extended to the criminal, and to the useless and worthless in general. Our new policy, in short, in this particular department of it, was substantially to this effect—that every child of the society, even of the most questionable origin,

which did get into the world, should be properly cared for, so as to give it all the best chances; but that all the care possible to the somewhat delicate case should be taken, that as few more of such children as might be should follow them.

All of this new project, bearing upon the criminal and mendicant elements of society, involved an apparatus of vast preliminary effort and expense. The State must have reckoned upon having, at the outset, to provide for, as well as control, a huge mass of criminal, worthless, and helpless beings. But if the State could clear all these demoralizing elements out of sight upon society's highway, and, by having them generally in secure permanent disciplinary charge, prevent, in great measure, inter-marriage and the legacy of a like succession, the State and society would be eventually great gainers. The present cost would form a capital account, large indeed, but well laid out; as the succeeding generation would emerge upon an altogether higher social platform. Let us glance for a moment at both sections of this subject, the criminal and the mendicant.

1. OUR NEW POLICY WITH CRIME.

The hardened and hopeless criminal, who would be released only to reattack society, should not be reallowed the opportunity.—AUTHOR, chap. i.

All over the country, and more especially in the great metropolis, there existed a multitudinous class of professional criminals. These were mostly themselves the descendants of criminals before them, and they were mostly rearing descendants of their own

who were to succeed them. These persons were everywhere, and in almost every individual case, perfectly well known to the respective local police, which police, ever watching these wary and adroit subjects, would make occasional arrests of the more maladroit, who, after, in most cases, some brief interval of seclusion, would be freely restored to prey, as before, upon society.

Now the new idea as to all this professional and hopeless criminal element, was that on every reasonably possible occasion it should, even for its own good, as well as for that of society at large, be placed permanently under lock and key. If, for instance, there was solid ground for believing that any criminal, if set at large, would only forthwith resume his criminality, why do him the injustice to set him at large? No doubt criminals had their rights; but it now began to be seriously thought that the rights of the non-criminal part of society ought to have an equal consideration.

This new and extirpatory method with crime took its initiatory movement as far back as the last quarter of the nineteenth century, when the casual or non-professional lawbreaker, and especially the juvenile first offender, began to be strictly distinguished, and kept carefully separate from the hardened and hopeless professional. The new policy aimed to deal tenderly with all the former, as persons who might yet be even good citizens; but to permanently lock up the latter, as persons of whom there could be reasonably no such hope. From this correct beginning we graduated onwards, giving, as required, exceptional powers to our courts, to meet all excep-

tional cases. There had been, too often in the past, a senselessly absurd miscarriage of justice, where the judge or magistrate had to confess that the atrocity of the case before him could not be adequately, or even perhaps at all, reached by the existing law. Henceforth he himself was therefore constituted the exceptional law for such exceptional cases; and as all courts in such cases were open, and all sentences revisable, the discretion thus confided, while much more effectually protecting or avenging the innocent, was in no great danger of abuse towards the guilty.

We may turn, by way of illustration, to one glaring social wrong, which, in particular, pressed upon society at this time for such exceptional remedies. This was the terribly prevalent, and hitherto far too safely pursued system of deceiving, seducing, or kidnapping young women for immoral purposes—a wrong truly more awful to its victims than the foulest murder, but as to which, in its various ways of devilish ingenuity, our courts had too often to confess that they stood powerless in trying to apply the actual law. One chief aim also was “to protect young girls from artifices to induce them to lead a corrupt life.” This whole question, in fact, was in the condition of a continual outrage upon society’s sense of justice and humanity. When in addition to stricter legal enactment, discretionary power was given to the courts, in all cases of this kind, to estimate actual offence and wrong-doing, and to award accordingly, the evil was at once seized by the throat and virtually put an end to.

2. AS TO BEGGING AND GENERAL VAGABONDAGE.

A great wrong to the poorer classes in the facility to lapse into idle, useless, and mendicant life.—AUTHOR, chap. i.

Towards the close of the nineteenth century, this particular form of the evils of society had at last culminated into the intolerable. The different authorities concerned, or which ought to have been concerned, seemed to have been scared by the irrepressible magnitude, the infectious increase, and all the ingenious devices of the ubiquitous begging element. In and about London, for instance, the streets and suburban roads were thronged with beggars, vigorously plying their one common vocation under all varieties of pretence. One vast section of this begging element formed, at every few steps, a pervading public nuisance—somewhat special to the metropolis—by its importunate solicitation under pretence of crossing-sweeping. And yet, the object being simply begging, the streets still remained unswept in presence of this countless legion, and had to be attended to in this way when required, just as though the said legion had no existence. The whole country teemed with idle and begging and thieving tramps, who were too often able-bodied persons, refusing work, and ready for outrage, if needful, to back their demands. There was, besides, a wretched gipsying life, which demoralized and discomforted every locality it successively visited. The professional begging-letter impostor, and sundry other forms of begging imposition, filled up the unsavoury and unwholesome picture.

The State was at length aroused to take in hand this entire mendicancy case, in common with that of crime. The two cases had a strong point of contact, and the management of the one merged substantially into that of the other. The great object of the Government, in facing the difficulties of this question was, on the one hand, the adequate and discriminative care for all real poverty or destitution; and, on the other, the entire abolition of indiscriminate, irregular, unsystematic charity. But it was not proposed, on the Government's part, to intervene as to either supplying the necessary funds, or assuming the management. On the contrary, no small hope of the new system was that it would eventually dispense entirely with the degrading and demoralizing public Poor Law, a hope which was, indeed, eventually realized.

The proposed new system consisted, substantially, of an adequate extension of the then best subsisting forms of "Charity Organization." The State inaugurated a Ministry of Charity, which included, for the time, the old Poor Law administration; and it thereupon summoned to its help both the philanthropic sentiment and the united systematic effort of the whole country. The great appeal was not made in vain. When adequate preparation had thus been effected, the Government issued their earnest exhortation, amounting, indeed, to parental command, that thenceforward all indiscriminate, all unsystematic charity should come to an end.

The State was in no way disposed to conceal what it was about; so that there was ample warning to the entire begging fraternity, of the revolution that was about to fall upon them. Nor was the warning

without excellent effect, as the visible commotion in the begging ranks showed, towards the approach of the appointed time. A huge section of those ranks, which abhorred regulated charity almost as much as regular work, had entirely disappeared. But although enough yet remained for a great and difficult task, yet the work was manfully encountered, and successfully dealt with. Distress and destitution were not only everywhere systematically relieved, but everywhere even systematically and successfully sought out. A very chief object of the new system was the care of all the more destitute of the young. The State, as the common parent, and with reference to the maturer life ahead, and the succession which it would certainly leave behind, was wisely concerned for this exposed section of its great family.

The stream of national voluntary charity, thus systematically directed, proved, in the event, always ample for its work; nor were ministering heads and hands ever in any short supply. In this new and discriminative field of charity, all those who, by age or infirmity, were past work were duly cared for; the able and willing were helped into work; the able but unwilling were coercively and reformatively dealt with. If the scene had opened with a crowd of helplessness that might well have overwhelmed the liveliest charity, yet, with each successive year's experience and amelioration, the case became more and more manageable, until, at least, in the succeeding generation, every serious difficulty, in the great original problem, had entirely disappeared.

YET ONE MORE STEP OF ADVANCE AND REFORM.

The old phrase that "John Bull could do nothing without a dinner," represented a national weakness of our public life, which was happily to come to an end with the busier and better life he entered upon in the twentieth century. Our gross and costly, time-wasting, and health-injuring habit of incessant and universal public dinner-stuffing was no longer either consistent or possible after the nineteenth century. We had then too many other and higher objects in hand. Accordingly, this habit expired in favour of one much less costly and more edifying, that, namely, of social and intellectual evening gatherings, where the "refreshments" were of the simplest, and in no way or degree of obstructive effect as regarded the other and chief objects of the assemblage.

This change of the taste and fashion of the time was remarkable chiefly for introducing a practically open door system of evening receptions, on the part of the leading persons, official, scientific, or others of the day; a system which developed into a great national institution and political and social resource of the twentieth and succeeding centuries. In explanation further of this decided change in our old social and somewhat exclusive ways, we must bear in mind that society had become, by this time, much broader and more inclusive, by the universal diffusion of education, as well as of a fairly well-off condition, and of those good manners and that sense of proprieties, which made such open sociability enjoyable, and indeed possible. We had also the benefit of a much freer and more frequent intermixture with foreign

society outside of us; for, with all the improved locomotion of the age, travelling was our universal resort for all classes and all circumstances. And, again, the visits which we thus increasingly paid to our neighbours far and near, began also to be as cordially and fully reciprocated by them.

Ministerial receptions of this comprehensive kind became, in particular, the feature of the time; and when the palatial accommodations, furnished by our centralized public office system, became available, these great assemblages at once assumed the character of a grand national institution. The science, the progress, the general intelligence of the time were ever there freshly represented. The effectual shortening of parliamentary sittings by the "Special Hansard" method, already alluded to, was eminently favourable to this new politico-social departure. The wearied minister in "The House" could be promptly refreshed by a short walk through the great corridors of the national edifice, transferring him, mind and body, from the graver to the lighter sphere, within still timely evening hours, and all underneath one and the same roof. These official interminglings and receptions became at last the business and social resource of every evening all the year round, and the pleasant scene where the highest and the humblest of society met together for mutual acquaintance, edification, and good-will.

AN ENEMY STILL CAPTURING OUR TERRITORY, EVEN
AFTER THE ENTIRE CESSATION OF WAR.

All along our coasts, such as these coasts still were, at this stage of my retrospect, and more

especially the southern and south-eastern, were the evidences that the sea, in past times, had been unremittingly busy, and almost without let or hindrance, in swallowing up the land. Even up to, and during, the nineteenth century, we took these repeated losses of national territory with remarkable composure. A very different spirit had come over us in the twentieth century; that spirit, namely, which sent us reclaiming and embanking, in order to get back all that we could of those terrible ocean robberies of the past. Precautions were everywhere prescribed by authority, so that no such national calamity and national scandal as a landslip into the sea should now, by any possibility, occur.

Nevertheless, the atrocious incident in question did once more happen, and at a time also that was even far into the twentieth century. When the people awoke one morning to learn that, during the night, a score of acres of our southern coast had suddenly subsided and slipped into the Channel waves, grief and regret first, and then high indignation, filled every mind. The Government of the day felt as much concerned as though a great political crisis had come upon them, a crisis which might possibly end in turning them out of office. All the proprietors of the coast had long ago been bound, under heavy penalties, to report at once upon the slightest symptoms of land-slipping, and such an event had thus become as rare as it was unwelcome. Happily, on this occasion, for all the reputations that were in jeopardy, some hidden natural causes were proved to have been at their undermining work, and thus proprietor and Government were alike delivered from some serious consequences.

A TRADE UNION STRIKE AT THE END OF THE TWENTIETH CENTURY.

Some prophets would have confidently gone for an entire cessation of strikes, under the anticipated advanced features of the twentieth century. The working classes, they might have thought, would, by that time, by help of sound economic progress, have managed to arrange their differences in some other way. Nevertheless, a notable strike did occur at the advanced time I have indicated; and its particulars, which I am about to give, are somewhat special and curious, as well as illustrative of that particular time. The illustrious Yellowly had not overlooked strikes in his reforming efforts. He, in fact, entirely approved the principle of strikes, as a last resort. He only disapproved of that lax or hasty procedure which resulted in his class being the losing party, and thus proving that there ought not to have been, for such occasions, the national as well as special loss of a strike. The notable strike, which I am now to record, ended, in Yellowly's justifying way, by the success of the strikers. And yet it had no unpleasant features for either side, and was otherwise quite characteristic of the advanced methods, as well as the larger scale of the business works of those times, as compared with the times preceding them. The thing happened in this way.

The great special trust, which had been created for the embankment and reclamation of the Thames' mouth, was, by this time at full work; and one of its contracts—engaging for a thousand million gross of the extra-sized, everlasting, sea-resisting composite

brick—had been taken, under competitive public tender, by several conjoined co-operative partnerships of working brickmakers. The quick turn-over, by means of universally applied machinery, made possible the working of great contracts of such a kind upon comparatively small capital, and thus gave, in one direction at least, a decided advantage to these co-partners, whose individual members were themselves the direct labour element in the business. By this time, also, brickmaking had entirely emerged from its old toil and drudgery; while, by aid of ever improving machinery, the output had become so enormously increased, expedited, and cheapened, that bricks of all sorts and sizes were being used well-nigh everywhere and for everything; so that this trade, in particular, had thus advanced to altogether unprecedented proportions, importance, and prosperity.

In the present case, the successful tenderers had based their close calculations mainly upon the help of certain recently improved portions of brickmaking machinery, which were only to be had of the very best quality across the Atlantic, and from whence, of course, they had been duly ordered. But although, at that time, our shipping was alike powerful, commodious and safe, to an unprecedented degree, the storms, as well as other meteorologic extremes of the old times, had not yet been tamed down, as at present, by our great sea-reclaiming processes, which have so contracted the evaporable surface, and diminished that cloud and vapour of our atmosphere, which was wont to be concerned in such pranks with our weather. On this particular occasion, so terrible a storm arose, that all the finer brickmaking machinery in question, handy

as it lay upon the deck for prompt discharge, and immediate application to use, was either knocked to pieces or washed overboard.

Well, the strike was directed against the application of strict contract time, under these unavoidable circumstances, and against the heavier work to which human backs must be subjected, if the contract supply must go on, without awaiting the effective aid of the special machinery in question, which machinery had, of course, been at once reordered from Massachusetts, on the occasion of the loss above mentioned. The trust was to suffer damage, because, in default of the large brick supply, just at the exact stipulated time, much other engaged work was kept waiting. But the great Brickmakers' Union stood firm to principle, and was duly justified in its course by the arbitration which followed. The backbone of iron and steel, at once cheap and enduring, uncomplaining and unsuffering, had now been definitively substituted for that of our more sensitive humanity, in all the rougher sections of the work of progress ; and to descend from this needful and appropriate elevation and protection was alike injurious to, and unworthy of, our high civilization.

CHAPTER IX.

THE TWENTY-FIRST CENTURY: ITS ILLUSTRATION BY A
PROGRESS OF PRINCIPLES.

Reed would sketch out the National Church of the future.
—AUTHOR, chap. i.

One of Yellowly's great aims was the institution of a permanent representative National Trades Union, as a High Court of Appeal in union life.—*Ibid.*

THERE was a grand material progress in this twenty-first century, which excelled that of the twentieth as much as the twentieth excelled the nineteenth, and the nineteenth the centuries that preceded it. But leaving that to be understood or estimated by the reader from the allusions in preceding chapters, I shall devote the present chapter rather to certain national institutions, and their condition as characteristic of the times; and I would begin, as a good Churchman ought, with—

OUR NATIONAL CHURCH—AS IT APPEARED AND FARED
IN THIS TWENTY-FIRST CENTURY OF OUR ERA.

Just up to the twentieth century, the prominent idea of a national Church, in popular estimation, was

that of a bundle of privileges. The environing warmth of privilege seemed to be of the very life's essence of the Church. To possess and maintain distinctively for her members, privileges—pecuniary, political, ecclesiastical—which others of the community, outside her religious pale, had not, seemed the main triumph of good churchmanship. I have already alluded to the first great blow, happily and successfully struck, and, to the Church's great credit, struck from within her own body, at this very low system. The success of this first step, on behalf of the Church's standing and influence, was so remarkable, that others afterwards followed, in the anti-temporalities war of those times, until the Church could at length claim that she stood upon her own inherent strength, with no privilege whatever that was not equally attainable by any other religious body of the common country. This lofty and independent position prepared her for a further movement, which proved of the highest importance for her future extension and usefulness.

Many questions had been accumulating for the Church in those times, arising, on the one hand, out of advanced science and biblical criticism, and, on the other, out of the old contention as to Tradition *versus* Scripture. Protestantism arose to replace the latter in supremacy; while historical research over the ground of Church and Episcopate had latterly shown that, however convenient and suitable as a human development, these must not take precedence of "The Word of God." Was our national Church, therefore, truly Protestant in this sense; or, abhorring the very name, as her very "High" section would express it, did she contradictorily follow suit with her

cast-off progenitor at the Vatican, in placing the Church's authority above that of Scripture, and thus committing herself to an independent highway of her own?

If, then, the Church, with Scripture in one hand, and her Prayer-book in the other, must needs revise her position, might she not invite the whole Christian people to her help? While we still called ourselves the National Church, yet, from one cause and another, one-half of the nation, or more, was outside our pale. Here was a grand opportunity; and the large-minded primate of that day fully appreciated all its possibilities, when he made his memorable national appeal for the reconstruction of a national church upon the sole basis of Scripture. There was, to begin with, a frank acknowledgment, in the interests of historic truth, that the original "Episcopus" of the earlier church was not what time and society's developments had afterwards made him.

This national appeal was not made in vain. The tendency of the new movement was towards collecting all the steady religious elements into a great national church. If the old distinctive sects still survived, they were comparatively dwarfed in numerical membership and influence, resembling a narrow but varied border to the great central floor of society. These small but zealous bodies were ever attacking and denouncing the central mass; but even still more were they at eternal strife with each other. There was, as one remarkable feature, a large accession of the "Liberal Catholic" element, a section which had latterly been at increasing variance with the Ultramontane extremes of

the Roman Church. We shall again meet with our reconstituted National Church further on, and see how she then also fared.

THE UNITED NATIONAL TRADES UNION, AND ITS FIRST CENTENARY OF THE DEATH OF YELLOWLY.

Ere the great Yellowly had quitted the world, he had succeeded in a chief object of his life, namely, the creation of a great permanent, national, representative trades union. It was by means of such a body—created out of, and representing, all the other like bodies—that he hoped best to reform all the latter, and rid them of all the erroneous or vicious tendencies, which had heretofore limited their membership, and weakened their influence. Success followed his efforts, and when he finally closed a long and busy life, he had left behind him a system that promised to work to the credit and well-being of his order and of his country. One hundred years had rolled over since that time, and it was now the duty of the great union president of the day to celebrate the first centenary of the death of the honoured founder. In abridged form I give some few of his more striking observations.

ADDRESS OF ITS PRESIDENT.

The president remarked that there were three different subjects to notice in this proposed retrospect. First, he would look at their own advance, which, as a representative union, they had accomplished by following the lines laid down for them by their

illustrious founder. Next, he would consider the progress of their country as to certain leading questions, in which they were interested on behalf of the great body of the people, and as to which they had been able to intervene with decided and beneficial effect. And, lastly, he would extend his view to the general aspect, alike of his own country, and of the world at large, in all that enlivening race of progress upon which both were now surely embarked.

THE UNION'S REFORMS.

Yellowly's prime rule ever was, that union principles and union action should be unchallengable. Besides being the right thing in itself, this was almost even more for them, as the sure and only highway to that influence and power which ought to be, and which might be, wielded by a section of society so indispensable and numerically so great as theirs. The president then pointed out, in his comparative sketch, the narrow, selfish, and altogether unworthy aspect of many of the union rules and practices, as they stood in the nineteenth century. But as their order had long since emerged from all this mass of inferiority and weakness, there was the less need to sacrifice much time and thought upon it now. Yellowly had especially set his face against every kind and form of union coercion; and, by his persistent efforts in this direction, he had altered the entire union constitution, so as to convert membership into a valued privilege, instead of a coercive inclusion. His effective lever in all his high class reforms was this great representative National Trades Union, which, as his own

special creation, now remains the monument of his sagacious foresight, to fulfil the duties of a High Court of Appeal in all union life.

ITS POLITICAL INTERVENTION AND RESULTS.—SOME
CHIEF POLITICAL QUESTIONS OF THE DAY.

This intervention, under all the circumstances, was altogether inevitable. Public questions of the most vital kind came up to the front in quick succession, towards the close of the nineteenth, and during the twentieth century. The settlement of these questions, in directions most favourable to progress, and to the well-being of the masses of the people, was only one part of the case. Another part, not less important, was that there should be prompt settlement, so as to give the benefits of victory, and of the new order of things, to the generation which fought the battles. As regarded legislation in particular, this expediting work had been rendered possible to us by the "Special Hansard" facilities, which Parliament had latterly adopted, and of which mention has already been made.

This authoritative intervention on our part in these questions, remarked the president, opened quite a new era to the great body of the working classes. When they had successfully set their own house in order, their views as to the great edifice of the nation were given with the more self-confidence, and listened to with the more attention and good-will. It must be remembered, too, that the vast union membership consisted now, throughout, of well educated and fairly well-off persons; and that, as the rule, the unions

possessed considerable funds, which were, in most cases, wisely used.

One of our earliest and hardest battles was to secure to the whole people the facilities and benefits of the decimal and metric system. The strain in the first step was ever the block in the way here; and but for our imperative intervention, the hesitation of the country might have indefinitely postponed that preliminary crisis, which each year's delay in the advancing society was only to render of the greater dimensions. With our unsystematic and confused moneys and weights and measures, we resembled a man with all his limbs out of joint, but who stood shivering and hesitating over the indispensable preliminary wrench, which was to set him to rights. The "permissive" system having failed, the compulsory must be resorted to. The general diffusion of education, by the time our successful action opened in this case, had a decided effect, alike in mitigating first difficulties, and abbreviating the trying interval of transition from the old to the new system. In thus practically superseding multiplication and division in the daily arithmetic of the people's life and business, we appreciably unhandicapped the entire industrial front, and thenceforth sent the country onwards at a goodly increase of pace.

In fiscal policy, again, we held successfully for two leading principles. Public revenue, in countries so settled, populous, and wealthy as ours, should by this time be levied, mainly if not indeed wholly, from only two sources, which ought to prove always sufficient. First, from realized property, seeing that the costly fabric of government was substantially for

the protection and interests of property ; and, second, out of that continually advancing value of the country's real estate, of which the people, as a whole, should thus enjoy some share or small percentage, seeing it is mainly due to their increasing numbers and industrial wealth-creating attainments.

The great and varied Land Question opened early upon us, and our union was able to bear with decided and beneficial effect upon its settlement. The concurrent Irish Land Question had a certain confusing effect, which we were useful in dissipating. In the exceptional Irish measure, the principle was "Justice to the people ;" in the other and more ordinary case it was "Justice to the land." The land must yield its greatest and best return by passing freely to the hands that could best use it. The court to settle "fair rent" must therefore, as the rule, continue to be, as in every other industrial direction, the court of open competition. If John Smith can't get £500 a year out of the land, and John Jones can, Jones must, of the two, have the farm, if we mean justice to the land ; otherwise we are back to "protection," in its most injurious form of artificially restricted production. There are exceptions, however, to every general rule, and we had repeatedly to back the "crofters'" case, when it reached the character and magnitude of a public question, and when, as being thus akin to the Irish case, it claimed some like dealing. When the question is the forcible expulsion of multitudes of our people from cherished ancestral homes, the possibility of some other arrangement should not be beneath public concernment, and accordingly the Trust System found on occasion its genial

application here, to the content and comfort of multitudes of homes. But keeping in view, as our main principle, this said justice to the land, it was comparatively easy to attain suitable land measures.

There was no long battle over primogeniture, entails, and the other remnants of an old feudality, which had admittedly fallen out of consonance with modern sentiment and social conditions. The public law, at any rate, must not deal injustice in family inheritance, whatever may be allowed to private authority. And, again, the dead hand must be entirely lifted off the living world. Those who quitted the world must not hamper and trammel those left in its charge. And, again, the vicious habit of provision-making for heirs and descendants, instead of allowing them the healthful stimulus of fighting their own way in the world, must be further checked by strict limitation to persons actually in life. This form of injustice to the country's future, as well as to the individual himself, must not be perpetrated upon the unborn.

While we in the mother country were still in the throes of vexations and interminable discussions over our complex land title, after repeated failure of permissive and tentative measures, our colonial children were already in the full enjoyment of public registry of title, and the consequent prompt and inexpensive land dealing. Our suggestion that the State should undertake, and at once, to clear the title for the whole country was adopted. The State was duly at work, "clearing and registering title" everywhere, with all the promptitude possible to so huge a work, to the boundless advantage of the

country, and satisfaction of the people ; and the State was afterwards readily and fully reimbursed by a small fee upon the countless land transfers that followed.

For many preceding years a theoretical jangle had been kept up as to how far such facilities would promote small landholding, and as to the advantage of such landholding, and so on. But the State's chief concern and duty in the matter was simply to remove obstruction. The marked and prompt result of this removal was, that the land fell freely to those hands which could use it to most purpose, and that the whole country acquired, in consequence, a decided impetus to its forward pace and prosperity.

Other great questions did beset us, continued the president. Should there be nationalization of the land, or even, as a less extreme alternative, a coercive limitation of landholding, in our comparatively narrow and crowded area? Provocation for intervention was not wanting, more especially in that partial and hugely unequal landholding and distribution of wealth, which the public law had still fostered, long after the circumstances of society had belied it. The ancient baron, on his great estate, had five hundred retainers, ready to turn out with their lordly head to the battle-field. But the modern lord had turned all these into domestics, who, in their modern emasculation, kept their master's palace and kitchen gardens, and cooked his dinner. But now the entire abolition of the law's injurious fostering restrictions was deemed sufficient. He was happy to record the moderation and good practical common sense with which his co-unionists opposed all extreme and

upsetting propositions. The nationalization project, in particular, which they rejected, got no support from the example of countries which, like Switzerland, had long freed themselves from old traditional land conditions, or which, like the United States of America, had never been subject to them. Two conditions, however, were successfully contended for on behalf of the whole people. First, that every requirement of land that could reasonably claim a public interest or object, must be allowed; of course, on due and full compensation. Second, that all land, while still in its natural unimproved state, must be, or continue to be, open to the public. It was intolerable that, for instance, a handful of proprietary should, on any consideration whatever, fence out the people from the wild mountains and glens of their native land. No plea should be allowed here, any more than to the ordinary thief, on the ground of time and non-disturbance. And even if fancy values, at times and places, did suffer somewhat under this open commonage, the whole people might fairly plead, *per contra*, their gift of that unearned increment of value, which was admittedly so effective everywhere in the other direction.

A NEW ORDER OF RANK—NATIONAL AND INTERNATIONAL.

Rank was to be on personal basis, the hereditary to die out.—
AUTHOR, chap. i., etc.

The altered conditions of society had brought upon us, by this time, a decided change in the national sentiment in respect to social precedence and public rank. Alas! that it must no longer be that “Eng-

land loves a lord," if there be nothing else than the title in his lordship. In the old times, when the mass of the people existed in ignorance, poverty, and degradation, the headship of the country, and its property as well, were easily secured by a comparative few, who formed a hereditary monarchy and nobility. But the people have since advanced to more equality of condition with those thus originally and hereditarily above them; and the tendency has consequently been to disparage the hereditary element, and advance that of real and personal quality.

A somewhat odd mixture, arising out of the past combination of the new with the old idea, now presented itself to the reforming mind of the country. The Public Rank of the time might be viewed as of four distinguishing kinds. First, there were those who stood solely and entirely upon personal deserts, who mostly led the world's business and the world's science, but whose rank was usually of the humblest. Indeed, the energetic and commanding minds, by which the world's progress was mainly carried on, were usually the least of all represented there. Second, those who, although not conspicuous in the personal element in particular, were of noticeable wealth, or had bestowed some of their means upon some noticeable public object. Third, those who had the happy luck to be in prominent office on the occasion of national events, such as a royal visit or birth or marriage, or the opening of a park, a bridge, a railway, or other chance-medley of the progress of their time. And lastly came the culmination of rank in those who had no concernment whatever with personal quality or services or national progress, who

simply inherited their status, and who, if personal merits happened to be originally in their case, accounted themselves all the higher in rank the further they were removed from such originating and raw personality.

Here, then, was a royal medley of rank, which, with every succeeding year, was less in accord with the common-sense of the day, and beginning at last to be suggestive of the ludicrous. The greatest intellects and chief moving spirits of the time stood in the same rank with nobodies; or the latter, as it chanced, might be the men of rank, and the former not. When these former began very generally to decline to enter such indiscriminate company, the time had come for sweeping away the entire old fabric. A great national order of merit was instituted in its place, whose positions were the fruit solely of personal qualities and deeds, and whose gradations constituted the sole public rank of the country. And, again, when the progress in countries outside of us, taking the same direction as our own, had also followed us in the like new institution of public rank, there succeeded an international agreement, by which the great minds of each country were marshalled forth into international prominence, and were thus constituted into an international nobility.

WOMAN'S POSITION IN SOCIETY.

Yellowly was a strong advocate of woman's rights.—AUTHOR, chap. i.

In the more delicate needs of life, the one sex being exposed to the other was never without sacrifice.—*Ibid*, chap. i.

We had inherited from our founder, continued the president, a care for the honour and the interests of woman, and a charge to give to her all possible help, in her battle with society for equality of rights with the man. Well, the woman has fought her battle, and has gained it; and society is all the better for the victory, in the interests alike of its business, its science, and its higher social concerns. He went on to say that, if the moral fibre of society had been distinctly strengthened by that reformed university life, to which allusion has been already made, yet further and yet more directly was this the case in all those educational and other arrangements, which now freely permitted the ministration of woman in all the delicate duties of her own sex's needs. The husband of to-day would as soon think of exposing the grace and purity of his young wife, in the honours and pangs of her maternity, to the indiscriminate gaze of the streets, as of exposing her to any one not of her own sex within the hallowed precincts of her chamber. In this direction alone there was thus an appreciable step of moral elevation along society's entire line.

ASPECTS AND PROSPECTS—OUR COUNTRY AND THE
WORLD, IN THIS THE TWENTY-FIRST CENTURY.

We look back, continued the president, upon more than a century of the life of an universally educated people. What wondrous advance since the end of the nineteenth century! Then, indeed, was the day of small things compared with now. But probably our great grandchildren, a century hence, may find equal cause, in their own still greater progress, to speak alike disparagingly of our day. Comparing the actual present with the actual past, no feature is more striking, or more inspiring, than the great increase of our population. On this question much speculative guess-work of the past has been set entirely at rest by the facts of the present. We do not starve in England, although our country is already far on to being covered with human beings and dwelling houses, instead of presenting the open fields of preceding centuries. America and Australasia pour in upon us ample food supply, conveyed quickly and cheaply in the huge shipping of our time.

A vast and busy mass steps now to the front of society. There is no longer the feature of a hereditary poor class or hereditary lower class, any more than of a hereditary upper class. The lower class of to-day is the aggregate of individuals who fall comparatively short in ability, industry, and character. The universal activity, alike of hand and mind, in our great populations, gives us our unprecedented pace of progress. That progress takes remarkable directions, as, for instance, in our practice, now extending over all the country, of interposing the protection of a glass

roof between us and our too often wet, cold, and inhospitable skies. And this practice, which is extending also outside of us, is already mitigating the conditions and increasing the resources of life in the world's higher latitudes. There is already, in fact, the promise of population literally from pole to pole. We have long ago found our way, in mere geographical progress, to either pole, and countless travellers have poised themselves in imagination exactly upon either axial extremity beneath their feet. The question approaches of even a crowded permanent residence in such regions, when our race, in years or centuries to come, has been still more crowded out of the more temperate latitudes.

Another remarkable direction of modern progress is that of the land into the sea. We have, most effectually, in this respect, turned the tables upon our old enemy. We are now everywhere busy filling up our foreshores, estuaries, and ocean shallows. Already we have, in this way, added thousands of square miles to too narrow Old England. Already the spacious and once troublesome and dangerous sandbanks of the Thames' mouth are our national terra firma, and are being covered with warehouses and shops, mansions and small gardens. Already we have bridged the comparatively shallow water between south-west Scotland and north-east Ireland. Already our great neighbours of Germany and France, extending now, as they respectively do, over little Holland and little Belgium of old time, co-operate powerfully with us towards a future land junction, by filling up the North Sea shallows. Already, in this way, have we a broad dam, with its multiple-lined railway, con-

necting Dover and Calais; while the multitudinous shipping of all countries, propelled now with the quiet rapidity of electric energy, is diverted through the great inter-ocean canal of France on the one side, or our own great Thames and Channel canal on the other.

The recent discovery of cross-electric power has precipitated us, said the president, into quite a new world of science and resource. Just when we seemed threatened with an increase of population that is to leave no room upon the world's surface for natural food-growing, this great discovery comes to our help, to turn out the required food, rapidly and cheaply, from the narrow quarters of our chemical laboratories. The cross-electric, further, in creating the great modern diamond factory (for any coal, shale, or cinder rubbish may now be rapidly and cheaply converted into hardest and purest diamond), has advanced powerfully alike our scientific, artistic, and material life. The ladies, indeed, under this new tide of cheap and boundless supply, at once turned up their fair noses in contempt for what they now designated as the vulgar flare of their previously most prized of jewels; but telescopic and microscopic science secured their great advance, while our window-light, and countless other necessities, aids, and comforts of life, came in, more or less, for the same.

OUR EMPIRE AS IT EMERGED INTO THIS TWENTY-FIRST CENTURY.

Is a future Gibbon to illustrate another "Decline and Fall"?
—AUTHOR, chap. ix.

There arises, said the president, in conclusion, but one shade over the general brightness of this picture. The great British Empire, of which, covering, as it did, one-ninth part of the habitable globe, our ancestors of the nineteenth century were so justly proud, is now, so far, at least, as regards the whole of this grand area and its advanced population, a thing of the past, and alive only in the page of history. Seeing, however, that all international war has long ago come to an end over the world, the break up of a power that might have been unchallengeably the greatest on the earth, has happily, on that account, proved the less dangerous to its people, and in that view also, possibly, the less mortifying. Nevertheless a pang of national agony shot through us all, during the past century, when we did actually realize, albeit too late for remedy, that, as the result of long-previous easy-going political negligence, the grand old empire had gone to pieces. Indeed, but for the self-condemning conviction that all parties and classes amongst us had been much alike to blame for the national disaster, there might not have been wanting, to the intensity of first regrets, a revolutionary tendency towards other forms of government which had happily proved so much more successful in banding firmly and permanently together the component sections of another great empire of the English race.

As we still embrace great India, as well as many various other places of the like mixed dependency character over the world, which, with that world's general advance, give us collectively already a population and commerce far beyond those even of the undivided empire at its highest united attainment, we are fain to gather crumbs of comfort, and to dwell upon the greatness still left to us. But we have definitively lost the vast areas of Northern America, Southern Africa, and Australasia. They all remain perfectly friendly to us, as indeed does all the rest of the world ; and at, and for long after, the time of parting, there was a profuse outpouring of loyal allegiance to the old associations and memories, with vows of eternal brotherhood, and so on. But none the less the substance has departed from beneath the shadow, and the great nationality is dissipated.

The untoward event happened in this way. Our colonies, as they became important and self-supporting, during the nineteenth century, demanded, and were cordially conceded, the constitutional or self-government of the parental type. They were then perfectly satisfied, and perfectly loyal, and nothing seemed wanting to harmony on either side. But separative elements and causes gradually arose, with the many differing circumstances of all these remote and practically self-governed societies. While they were still respectively, and even collectively, small, as compared with their overshadowing parent, and still moved by home rather than by local or colonial influences and remembrances, there were no great difficulties in sufficiently preserving at least an entire legal unity to the empire ; for in all important colonial

questions, having imperial bearing, the home decisions were then always cordially acceded to. But as the colonies grew to greatness, they were ever less and less disposed to be thwarted by the imperial check in independently pursuing what seemed to them their suitable course. They had secured, from the first, the free disposal respectively of their own tariffs. But afterwards they began to seek inter-tariff and other independent arrangements, foreign as well as colonial, outside of them; and in various other ways their tendency was ever to trench more and more upon imperial treaty arrangements, and imperial rights, and legal and political consistencies.

What had been wanting all through this undermining process, and what had not been timely considered and remedied while still possible, was a firm and equal political union, by the due representation of all parts of the empire. This being wanting, any exercise of the imperial check upon a colony had always, of necessity, rather the untoward aspect of the command of a superior to the subject, than that of the decision of a whole united nationality; and thus the larger colonies, as though by an inevitable instinct, began to indicate resistance. When at length one of the greatest of these "dependencies," as we were still ominously calling them, in a vital question of imperial policy and consistency, declined flatly to be "coerced" by the home decision, it was seen that the cord had at length snapped asunder.

We had already, at this time, passed into the twentieth century. Up to the end of the nineteenth unity seemed still possible, and a Bismarck hand might still have secured it. But the English Bis-

mark was not then forthcoming, and so the great empire fell. We had to content ourselves with having enriched history on behalf of some future Gibbon, who was to describe the decline and fall of yet one more of the world's great empires. We had no longer indeed the dreads of war to cause us to regret that the powerful co-operating arms of our colonies were lost to us ; but, in other respects, our shorn condition came home but too plainly to our national pride. The greatest and most progressive empire of modern times had crumbled to pieces in our hands, and with additional disappointment were we aware that our transatlantic cousinhood were now indisputably to pass us, in assuming the first position in the English speech. In short, we had been trifling with the grandest position in the world, and we had irrevocably lost it.

CHAPTER X.

THE TWENTY-SECOND CENTURY: ITS ILLUSTRATION BY
OUR SOCIAL WAYS.

Yellowly would have every one married, Reed every one occupied, in the world, society being thus at its best.—AUTHOR, chap. i.

I PROPOSE to illustrate the twenty-second century, on which we now enter, by reference to one subject only, but yet a subject so important and comprehensive as to involve very much else in human relations, and thus to approve itself a good characteristic illustration. In short, I propose to treat of marriage, in some of the chief features which that social condition itself, as well as the various ways and preparations for attaining it, presented in the twenty-second century. The progress of the world may perhaps be quite as characteristically shown in this particular direction, as in any other. Given, youth and the two sexes, there will always be marrying and giving in marriage. Let us, then, see how they managed this important business of human life in the century which we have now reached.

MARRIAGE IN THE TWENTY-SECOND CENTURY.

The habit alike of early marriage and of universal marrying, had been our increasing social feature since the great educational and other reforms that characterized the closing nineteenth and opening twentieth century. Every young man and every young woman looked forward, as matter of course, to being a husband or a wife; and each, upon due occasion, took his or her own case in charge in the most methodical and business way, and with altogether undisguised purpose. But, in order to be suitably mated, the great object on either side was not merely the ordinary family or domestic happiness, which was mostly a sure enough prospect in those fairly well-ordered times; still less was it anything about pecuniary settlements, that prime consideration of some previous centuries. What the expectant wife might possibly be even more concerned about than mere domestic bliss, was the prospect of an active and successful joint participation in the current science or business of the time, so that life might be spent to some purpose, and the departing spirit, at the end, feel that, during the occupation of the body, there had not been a mere useless cumbrance of the busy ground. Deathbeds might thus be at times a sad but not unedifying spectacle, when they were disturbed by a sense of irrevocably wasted time. The strength, freshness, and comparative leisure of youth were in general diligently given by either sex, to lay a solid foundation of acquirements for the pursuits of maturer life. Even diet, as well as exercise, began to be universally regulated so as to result in the greatest

powers of mind and body. The young couples, when mated with due regard to suitability, would complete together, with an inspiring mutual stimulus, their preparatory career, and then enter with mutual ardour upon the special study or work of their life, which was sometimes the same for both, sometimes different.

Marriage was thus looked forward to as the era for entering upon many-sided activities and much accompanying satisfaction and happiness. The stronger sex, as was fitting and proper, then and always, still assumed the lead in matrimonial preliminaries. But if it was the young man who most usually first approached, then wooed and won the young maid; yet the latter, upon any special circumstances or emergencies, or upon the confines of a critical age, would be just as little disposed as the masculine sex to waste her opportunities, or let slip her particular likings, and thus, from any over-delicacy or untimely hesitation, wrong her life-prospects in so time-pressing and momentous a business.

But these early marriages, and this busy married life, if they produced much happiness, produced also large—indeed very large—families. The progress in this direction was truly quite as marked as in any other, in the general advance of our country and of the world. Society at large was confronted by the one special problem of ever-increasing mouths ever agape for food. But over against this one costly responsibility of the time, society could set many economies resulting from the diligence and good order of married life. The two sexes, meeting each other freely in business walks, formed early attachments, which had a restraining effect upon the passion or

extravagance of youthful inclination. The gentler sex had, by this time, successfully fought its way into all of the world's work that was suitable to it; and thus the engaged young couple would pile up together, from the proceeds of their respective industry, the sufficient preliminary fund for their beginning their joint life. Society could thus be assured that the prospective increase of population was subject to such concurrent guarantees for a full set-off in industry, frugality, and other social good demeanour, as to leave society largely the gainer.

STATE INTERVENTION IN MARRIAGE.

The Government of the day did not deem it either beneath their dignity, or a matter outside of their duty, to countenance and even to promote this general attention to suitability in marriage. This was usually done by precautionary and other needful intimations issued from the State medical department. We shall see, further on, what more was done in this beneficial supervision, more especially when a public interest came to be taken in the promotion of international marriages. The State, indeed, affected no secret that it also, as well as the parties themselves, was primarily interested in suitable marriages, and in the highest health, moral as well as physical, of family life.

We come back to the old saying, "As parent, so offspring." The latter can get only what the other, at its time, has to give. Parents in bad health must expect children who will be a trial and trouble to all concerned. Nor is the moral health less heritable than the physical. By due intelligent precaution, the

child might be, and indeed ought to be, an advance upon the parents ; nor was public opinion, about this time, slow to pronounce, if the result were noticeably otherwise. A good father with a bad son aroused unfavourable comment upon the former rather than the latter ; while to serve out the offending junior by finally “cutting him off with a shilling” was now regarded as but scant parental justice and reparation. Pious parents, troubled with unruly family nests, got scant public sympathy in this cause-seeking time ; for there had obviously been either bad parental condition, or else most culpable negligence. Intermittent parental health, unsteady character, intervals of devious or doubtful purposes, require all to be intelligently guarded from transmission ; nor can subsequent parental physical restoration, or after reformation or penitence, however personally edifying and saving, hail backwards to the offspring's like benefit.

The State, as already hinted, did something more than take only a medical interest in the great and ubiquitous marriage question. While medical science was constantly expounding, in language as plain, and yet as delicately select as the subject would admit of, those qualities of mind and body which would unite in the best and happiest marriage, the State had itself begun to give practical effect to theory, by intervening in the promotion of suitable unions. Our statesmen of that day, relieved, as they happily were, from countless old cares and anxieties, in naval and military superintendence, criminal jurisdiction, and ever possible international differences, jealousies, and general susceptibilities, could not better employ their resulting official leisure to useful public account. By

way of publicly exemplifying marriage suitabilities, certain national selections would be periodically made of both sexes ; and if these selected suitabilities, thus theoretically mated, afterwards mutually agreed to actual marriage, they became, in a certain sense of social consideration, the State's family, and any children they might have were to be regarded with more or less of public concernment. This procedure was, in fact, no other than a very high-class scientific experiment, and society was then sufficiently advanced to so regard and benefit by it. The children of such State marriages were usually, as was fully expected, the most perfect of their time. Any other result would have been as surprising to all, as indeed it would have been reprehensible to the parties more immediately concerned.

MARRIAGE SETTLEMENTS.

The young people of those days, as we have said, looked well after their own matrimonial interests ; and even the gentle young maiden, however diffident and filially obedient in all else, took this matter pretty much into her own hands. The parental experience and discretion, which had prevailed in former times, as far at least as regarded pecuniary considerations, had but scant tolerance now. "The settlements," in their old meaning, had drifted out of the reckoning. Indeed, from the facility, or rather the absolute certainty, with which an adequate living could be earned by due exertion and ability, in those days of high education and of the universal application of high art and science to all business life, the energetic and ambitious young wife was not anxious for a husband

already well off, and thus deprived of his strongest stimulant to exertion. On the contrary, she would rather have suspected and dreaded such a candidate for her hand and heart, and have preferred one who was likely to be more free to assist, effectively, her own exertions towards imprinting their common mark upon the advancing world, to the credit of their own name after their departure, as well as that of the family they hoped to leave behind them.

The love-sick youth of the other sex must thus, for his part, be careful of allusions to wealth or family, or other such non-personal matters, seeing they were apt to be viewed, by the critically interested fair one, merely as excuses for, or symptoms of, an idling tendency. His great-grandfather's merits, however overshadowing, could not possibly stand for his own. The personal had, in the very practical common sense of the time, become the sole consideration. The process of courtship was, indeed, one of the prominent high arts of the time, the grand object on either side being to find out each other sufficiently upon all important personal points. It was only when each was thus entirely satisfied with the other, that the final agreement was ratified, and a joint life entered upon, which thus gave all good promise of mutual suitability, as regarded alike personal happiness and public usefulness.

DIVORCE IN THE TWENTY-SECOND CENTURY.

Yes, alas ! with all its advance at this time, society had not emerged from this social necessity. Divorce features, however, had been very appreciably changed,

and been freed from most of the grosser aspects of former centuries. Wives had not much complaint now of cruel or sensual husbands. Their wrongs were of a much more refined character, and one that was more accordant with the delicate sentiment, and the high aims, hopes, and expectations of that age. The following two instances of divorce suits will form a sufficiently characteristic illustration, more especially as these cases, both famous in their time in this century, assisted respectively in establishing authoritative precedents for subsequent times.

TWO TYPICAL INSTANCES.

First case.—A youth, heretofore of promise, who, in the severer part of his university ordeal, had unguardedly addicted himself to the injurious, dirty, and then all but exploded habit of tobacco-smoking, had afterwards also fallen in love with a different and far more worthy object of affection. But, perfectly aware, as he could not fail to be, that the public sentiment as to his unfortunate habit, and more especially the firm stand which, as by tacit agreement in matrimonial relations, the other sex had made against it, for more than a century past, would give him but slight chance in his proposed courtship, he not only at once laudably abandoned his smoking, but by a course of thorough medical purgation he successfully eliminated every possible trace of his old infirmity. Rejoicing in the strength of new purposes, and a new life and manhood, he now introduced himself to the fair object of his hopes, and was duly successful in his suit.

The honeymoon, and even some further interval, had passed over with mutual and unexceptionable happiness, when, alas! the old habit began once more to creep over its victim. The alarmed and aggrieved wife, after a sad struggle between love for her husband and abhorrence of his vile habit, together with all the altered prospects of her whole life, through this health-injuring, time-wasting, and in every way anti-æsthetic practice, was persuaded, under due approval of her legal advisers, and as her last available resource, to bring her action of divorce.

The learned judge commented on the unusual clearness of the case. The wife's sacred vows were to the man himself, not to the man plus the tobacco. It was a case of divided affection, where agreement had been for undivided affection; while the victimized wife had been designedly, and by legal fraud, kept in ignorance of conducing circumstances prior to the matrimonial agreement. Had the wife been duly apprised beforehand of the bad tendency in question, her legal remedy was utterly gone, she having knowingly accepted all risks. Or had the vicious habit arisen only after marriage, she was in equal deprivation of remedy—nay, even more in this latter case, for the usual commanding influence of a good wife would seem in such case to have been at fault. Clearly there had been a legally constructive fraudulent concealment of facts that were most material to the intended marriage, and the court must therefore pronounce for a divorce.

Second Case.—The other case, as the judge, in effect, said at the time, was not one whit less clear.

A wife had ascertained, but not until after marriage, that her husband had been possessed of considerable property; and, what was to be regarded as still worse for his prospects, it was means inherited and not self-made. In consequence of such ample pre-provision, he had shown but slight disposition to enter with due zest and vigour upon the world's work, and his poor and humiliated wife was in consequence in utter despair at her prospects. The case was aggravated by the indolent fellow keeping an elegant and luxurious carriage, in which, with all the latest and best energy-locomotive adaptations, he wasted many precious hours; and he had even repeatedly tried to seduce his virtuous and high-aiming wife into the same ignoble waste of time.

The noble-minded wife, after a protracted endurance, hoping still against all hope, at length, and most reluctantly, brought her action. The judge commented upon the very high importance of this case to the advanced civilization of the time. He pictured the young wife, ardent in the honourably ambitious hope of a successful life of activity and usefulness, realizing, after marriage, that all her brightest expectations were thwarted, checkmated, utterly wrecked, by an idling and useless husband. No doubt husbands of unusually superior natures could surmount the obstacles in question, and be, perhaps, just as active, mind and body, with wealth as without it. But as that was by no means the ordinary experience, a fact so material to the matrimonial agreement, and to matrimonial prospects, ought, in all fairness, to be made known beforehand; otherwise the contract was simply null and void. After a brief but emphatic

assertion of the true justice of that view, and sympathetic allusion to the fresh chance such justice afforded to the unhappy wife yet to retrieve the blasted prospects of her life, the learned judge, amidst the hardly suppressed applause of the whole court, pronounced for the divorce.

A NEW "INTERNATIONAL" IN THIS TWENTY-SECOND CENTURY.

The term "International," three centuries earlier, was wont to call up chiefly a grim vision of class war and bloodshed, and the general upset of society. That term now carried a very different meaning. So soon as the various peoples of the civilized world had fully realized that all fears of mutual war were finally done with, a mutual trafficking, and mutual personal intercourse set in, with a cordiality, and upon a scale, which were altogether beyond precedent. Our young men, after completing their education, and just before settling down to life's regular vocation, would make a short visiting tour amongst neighbouring societies in Europe or across the Atlantic. Indeed they went, by-and-by, gradually much further afoot; for, during this century in particular, our Anglo-German race had almost everywhere overspread the world from equator to either pole, in their successful colonizing enterprise. These various outside visits were cordially reciprocated to us by the youths of the other countries.

Upon this practice there was gradually grafted another. The respective States began to issue, to their respective young excursionists, duly accrediting

passports or letters of general introduction, which would give them free ingress abroad to the best society. These letters were more than a mere form ; they were the result of proper and careful inquiry and evidence as to character and attainments. There were thus, of course, great facilities for the meeting of the *élite* of the sexes, and there was a charm of novelty and piquancy in the whole case which helped much to promote the many life agreements that were the consequence. In short, our young adventurer most commonly returned with a foreign wife ; while the State, backed by medical science, gave no unhesitating approval of this most genial international habit.

But after a time this practice took a new and still enlarging direction, and a direction which was eventually more specially associated with the term "international." The practice, in fact, now become general with the one sex, at length extended to the other. At first, of course, the excursionists had been, without exception, of the stronger sex. The bare idea of any young lady embarking on such a cruise, unmistakably, as it must have been interpreted, in search of a husband, seemed quite intolerable to the proper delicacy of the sex. But it is marvellous how good common-sense, as to the actual needs and wants and reasonable desires of life, comes at last to prevail. As regarded the young men, there was soon no affectation of disguise that the main object was a nice foreign wife. Was the other sex really less interested on the same subject ? Evidently the woman's rights question was to come up once more here. As year succeeded year, opinion seemed to get riper, and

female courage stronger, on behalf of the new right and privilege; and the only question at last was, as to which country would be the first to launch its fair-sex invasion into the open and tempting field of the others.

There was evident preparation in this new direction amongst more than one of our neighbours, not to mention the social heavings within ourselves. If our English young maidens lacked the courage to be themselves the first to break the ice, our country was, at all events, honoured as the place to which the interesting first experiment was directed. There was, in fact, in this matter, so characteristic of the times, an interval of high curiosity and expectation. Failing our own fair sex making the first attempt, we were looking rather in the direction of old blood relationship across the Atlantic, where many millions of the ruddy young life and beauty of Canada were already in perceptible ferment on the subject, and where still more millions of the still more self-assertive and independent-thinking maidens of the great States on the southern border seemed not less bent upon the coming fray. The Atlantic had now long been easily and rapidly crossed by great ferries, which resembled, in dimensions and steadiness, rather a considerable floating town or territory, than the old and superseded ships and steamers, which the wild waves played with at their will two or three centuries before. There was, therefore, little difficulty or delay nowadays on the score of transatlantic distance.

But, after all, the first expedition of fair adventures came from La belle France, and an ever-memorable occasion it made for either country. The

respective Governments had been aroused to take quite a leading part; and a countless multitude of either nationality streamed forth, the one to bid farewell, the other to welcome, this new pledge and novel direction of international union. By this time there was no longer a Calais-Dover strait. Indeed the original viaduct, with its railway, thrown across many years before, had been already widened into a broad belt of intervening territory; while further north and south respectively, other like encroachments had been also successfully made upon the oceanic domain. While the long and well-crammed train is being drawn up at the half-way international boundary, and its most elegant and precious freight is being transferred to the charge of the committee of English matrons officially appointed for the purpose, let us make a few further and explanatory remarks upon this new and extending international custom.

These lively missions to, or invasions of, each other's country, soon took, even with the gentler sex, the form of national rivalry and challenge. Each country not only gave, as we have seen, accrediting passports to its youthful representatives, but grew more and more careful to select the very best of the youth for the purpose; and thus a high national interest was excited, before which the old horse-racing, cricketing, and such like, paled almost to insignificance. Thus the female accession to these excursions fell to be dealt with, and even, if possible, still more strictly, in the like discriminating way; and France, we may be sure, had put forth, on this first occasion, her full strength of beauty and accomplishment.

There was yet another curious result of this highly

characteristic international rivalry. When the one country sent forth its choicest youth of the one sex, it could not be long ere the other country would, as matter of course, feel impelled to meet the implied challenge by some equivalent encountering display of the other sex. And thus a practice obtained of the visited country having in readiness a number of the opposite sex about equal to that of the visitors, and selected, as we need hardly add, with due diligence and adequate discrimination. At official receptions, arranged for the purpose, these *élite* of the two sexes were mutually introduced; and, as might have been expected, the end of it was that, in most cases, the young men did not fail to find wives to their taste, nor the young maids husbands. But the curious result alluded to was more particularly this, that any who might happen to return unmated had presumably failed to encounter excellence equal to their own, and were thus enabled to bring their superiorities safely back for the good of their own kith and kin. When the female sex entered these lists, of course this view of the case was still further enforced by considerations of gallantry. There was, therefore, always the greater triumph to their country, the larger the proportion of its fair ones who came back unsatisfied and unwed.

History has told us that of this famous, and, in all senses of the word, virgin French expedition, not one fair member returned as she came, and thus certain expectations of French triumph were signally disappointed. This, however, was by no means the uniform result; for after the first novelty wore off, and this kind of marital adventure became quite a

common occurrence, even amongst the fair sex, considerable bands would return with still uncaptured hearts, to be welcomed with triumphant acclamation by their compatriots, and afterwards, most likely, to be eagerly sought after at home as the proud possessors of unmatchable superiorities. But there was one remarkable instance of the same complete result, which happened not very long after this first case, and which comprised such exceptional and stirring features, as to be not unworthy also of a place in our record.

The case in question concerned Italy, which country had not yet sent forth its first army of fair and foraging maidens, even after most other countries, including our own, had repeatedly set the example. We, for instance, had already thus invaded this same backward Italy, in common with other places. There was something not entirely explicable in the matter; for a long roll of Italian beauty was understood to be both ready and willing, and seemed restrained only by a mysterious official pressure. But no one outside had suspected the real cause and motive, until early one fine Italian morning our ambassador at Rome telephoned our Government in haste and alarm, to the effect that he had just then, reliably, albeit surreptitiously, ascertained, that we were almost on the very eve of being visited by such unprecedented numbers, and such a strictly selected excellence of Italian maidenhood, as made it utterly impossible for us, with mere ordinary preparation, to escape grievous national defeat.

The surface, to all appearance, indicated nothing unusual. The Italian Government had already trans-

mitted to ours the usual courtesy notice, as though for quite an ordinary visitation; and they had done this with an ostensible calmness, even almost indifference, as though nothing in particular were in the wind; while, instead of that, a furious tornado was already well-nigh at our very doors. But our measures were instantly taken; and as Italy had so successfully kept her own counsel, so did we, and even with still more success. We had out, at once, agencies everywhere over the country, to gather in the *élite* of our youth. We decided upon our tactical course. So soon as we could learn the exact number of the enemy, we draughted off an exactly equal force, the very choicest of the choice, and thus, in readiness and full confidence, our authorities awaited battle.

We completely hoodwinked the watchful expectancy of the Italian ambassador in London, so that no warning whatever had passed to his masters outside. As the day of departure drew on, the Italian authorities were hardly troubled to conceal their approaching triumph; for it seemed to them now impossible for England, in the brief remaining interval, to be duly prepared. Venerable old Rome, with all its millions of population, was in high *fête* on that memorable day, as the long and crowded trains carried off Italy's choicest flowers to what was deemed certain victory. The bright and joyous, laughing and joking occupants, had, however, many a serious exhortation, parental and general, to reject with becoming pride all inferiority, and to assure their country's triumph by returning, in the largest possible proportions, with uncaptured hearts.

This famous journey was one continuous succession

of pleasurable excitement. The universal and somewhat critical circumstances had begun to be known everywhere, and to arouse the greatest possible interest. On the way, authorities and people alike, at the different places the expedition successively passed through, in Italy itself, in Switzerland, in Germany, in France, gave the excursionists the most specially cordial greeting. As they approached the old but exploded Alpine barrier, the trains divided, some to take one or other of the various tunnels, the others to ascend the various mountain lines, whose steeps were then easily overcome by the adequate electric locomotive appliances of the day. Many of the lively young travellers, preferred the grand mountain scenery, which they could comfortably enjoy beneath the protective over-all glass surrounding. Indeed, in all the more northern latitudes also, by this time, the custom was general of enclosing even the entire railway line with glass, which was either the ordinary toughened cheap article of the kind, found to be quite strong enough for all usual emergencies, or, at a trifle more cost, the thin light diamond sheet, so sparkingly clear, and of such defiant strength against the hail and tempest that still characterized our earth's meteorology. The great work which we, of the twenty-ninth century, have since accomplished, of filling up the most part of our ocean surfaces, had not yet advanced so far as very perceptibly to mitigate the old world's climatologies.

The Italian embassy at London, it is recorded, had indulged largely in bets, and at heavy odds, upon the results of their fair countrywomen's mission.

One-fourth of the whole, one-third, one-half, nay, even more than all that, were to return as they came, to the terrible exposure of England's inferiority, as compared at any rate with triumphant Italy. Betting in those days did not, however, continue in the degrading and mercenary form of previous centuries. The loser of a bet was, at this time, usually bound to write an article upon any subject whatever which the winner might prescribe. Upon honour he was bound also to write without help; so that these constrained articles formed a very characteristic literature of the age, very trying to the writers, and very amusing, at the least, to every one else. And so the "Bet Magazines" came in for very general reading, and formed, in fact, quite a noticeable section of literature.

So soon as business opened, our authorities, confident in all their arrangements, were ready with their programme of surprises for the other side. As surprise the first, we at once intimated that our numbers would be strictly limited to exactly those of the other side. Any less confident feeling would have preferred a larger number on our side, as giving us a better chance. Again, the options in procedure being with us, as the challenged party, we at once declared, as surprise number two, for the Alphabetic course. This meant no less than that the first or preliminary introductions, by pairing in the alphabetic order of the names, would be committed to absolute chance. This seemed mere blank defiance on our part. The other, and much more usual mode, as giving better or freer opportunities to seek out mutual suitability, was to make the introductions quite general, and thus leave the young people more entirely to their own

selections. By our extraordinary course, we were, in effect, saying, that either side was so perfect throughout, and thus so equally matched, that any two, taken at hap-hazard, would prove as suitably mated as any other two. Those of our own people, who were not in the secret, quailed visibly at such rashness, and rampant triumph was already running over the Italian side. "Whom the gods would destroy they first turn mad," was in every mind, and upon every glib tongue in that quarter, and the betting there went furiously on at any offered odds.

Now the great event of the receptions is opened, and all eyes are curiously turned, more especially to where the *élite* of England is to emerge, in order to confront that of Italy. The quality of the latter had been already declared as the long line defiled shortly before from the arrival platform; and the enthusiastic ovation, into which we were impelled on the occasion, showed all the more clearly the sense of the country's approaching danger.

The candidates on our side had, until now, been carefully, and rather mysteriously shrouded from common view. The Italians were not slow to jump at a probable reason, and forthwith, even more expectant than before, their betting grew even still wilder. When the first name in letter A was called on our visitors' side, and a living form of unsurpassable grace and beauty came responsively forth for Italy, every eye at once turned to the opposite entrance where England was simultaneously to put in her rival appearance. A buzz of admiring satisfaction, which immediately passed through the great assembled company, told that England had not

proved second-best in the dread encounter, and gave timely relief to many doubting and anxious minds. But this was only an individual instance. A legion lay still behind, and the Italian side was still undismayed; nor had it still abandoned hope even when the entire first letter was played out. But, alas! long, long ere Z was reached, their hopes had fallen to zero. What a harvest in store for the "Bet Magazines" of that nationally eventful week!

We are left to infer that the young couples did actually settle their mutual affairs by the chance medley of the alphabetic course. Anyhow, as the record has told us, every young Italian maiden was duly robbed of her heart by the young English brigands of the occasion. Although Italy lost some expected vainglorying, we are not to doubt that she contributed largely instead to the brightness, beauty, and happiness of many English homes.

CHAPTER XI.

THE TWENTY-THIRD CENTURY: ITS SOCIAL ASPECTS.

A sanitary project of the future which was entirely my own.—AUTHOR, chap. i.

IN this chapter, and for this century, I propose to confine my illustration, as I have done in the preceding, to one special subject, but a subject also quite characteristic of the times we are engaged with. We have seen how successfully we carried out the resanitation, or sanitary reconstruction, of London—an exemplary movement which was promptly followed by that of most others of our cities and towns, and which enormously advanced the general physical comfort and social well-being. Following that great sanitary step, or rather, in great measure, marching concurrently with it, we also successfully effected a great moral resanitation in a certain section of society, that, namely, which was connected with crime and mendicancy. But a much more advanced, and, indeed, entirely different ideal of resanitation has been silently at work all this time; while we have delayed mentioning it until now, because the full fruition of

the work did not appear for these several centuries. I shall now enter upon this further great step of society, and call it distinctively—

A COMPLETING SOCIAL RESANITATION.

“Honour to whom honour is due.” That distinguished ancestor of mine, of a thousand years back, whom I have such repeated occasion to call up in such long retrospect—the great founder of my house, and of that great provision trade in which his descendants have ever since been engaged, and who in this, as well, probably, as countless other matters of his day, if every one had his due and at its due time, ought to have been and would have been much more highly and more publicly appreciated by his generation,—has left on record how, through his own sole instrumentality, this remarkable resanitation took its beginning. Now, indeed, the whole story belongs to the world’s fame. My great ancestor, noticing, on one occasion, amongst the juvenile street Arabs of his day—a day when such social spectacles were still possible in our midst,—certain naturally healthful and perfect forms, although otherwise rag-covered, soiled, and totally neglected, the idea occurred to him to collect together and carefully train all such perfect forms. They were to be specially brought up in separate institutions, where they might be duly educated so as to complete all the rudimentary advantages nature had given them, and thus be sent forth into the world as a kind of superior race—a natural nobility—to take, by force of pure personal quality, their natural lead in society.

How far my noble-minded and disinterested ancestor foresaw all that was ultimately to come of his novel idea, we are not told. Any way, his originating movement had very grand results. But he had at first to fight his battle against universal opposition: his own wife, as he has amusingly recorded, fighting most vigorously of all against his future fame. Although unsparing of his own means, progress at first was slow. But the idea afterwards gained ground, and, ere its author left the world, he saw the promise of its substantial success. Indeed, the subject, very soon after, assumed such importance as to become a public question, which the State incorporated with that of the general education of the people; that is to say, the State enjoined a distinctive drafting out of all young children of perfect health and form, whose high natural advantages were to be specially supplemented by all the superior educational advantages for which they showed themselves capable. The State looked, by way of reward, to the rearing of quite a superior class of subjects, and the consequently increased credit and accelerated advancement of the country.

At first, of course, only the very poorest classes submitted to be the objects of this distinctive charity, for as such it had doubtless commenced; while the title of "nature's nobility," which was early conferred upon the new order, had probably no complimentary intention. But, as generations passed, nature's nobility began to crop up all through society, and to exhibit qualities which gave to it commanding social and intellectual position. To enter the lists of the new order was no longer a contemptible object,

and there was a gradual dissociation from connection with public charity. That latter aspect of the case had already been superseded, when the resanitated body had risen to conspicuous dimensions, and already included many of the most prominent citizens. There began, on the other hand, a natural tendency towards a special and separate order—the order, namely, of perfect sanitude in mind and body. But the ranks of this order remained always open to the like qualities from outside; and at length every one without, who could pass the due medical ordeal, pressed eagerly into the ranks of this natural nobility.

Centuries had thus passed, and a painful transition scene was evidently impending over society. Almost from the very first, the then despised nature's nobility had shown a disposition to intermarry amongst themselves. And what wonder! for where else were found such beautiful specimens of either sex? And now, when generations and centuries had done their further work, this custom of restrictive intermarriage became more and more the practice of the new order. The inevitable end began at last to heave in sight; for, on one side was this new order, which, in all its vigorous superiority of body and mind, had now entered upon the full supervision and command of society; on the other side a mass of human infirmity, from which the other section could hardly but feel increasingly impatient to be free. When those latter ruling powers not only rejected alliances for themselves with this distempered remnant of the old society, but at last, as a sanitary measure in the public interest, prohibited marriage amongst all its membership, the last vestiges of the old condition were finally to disappear.

They did disappear accordingly, and thenceforward we started as, in many respects, a renovated race ; while other countries, in view of such results, acted more or less upon our example. An appreciably greater health and vigour pervaded all scientific, business, and general life, which told marvellously on our national progress. I often wonder even now at the busy spectacle around me, for doubtless we still benefit from the renovating effects of that great movement. Take my worthy old father, for instance, who in spite of nearly a century of years, is yet as early and as hard at business as the youngest of us, and earning always a great deal more than he spends. May Heaven long preserve—may Heaven, as I dutifully repeat, prosper him to the uttermost !

THE SELPHNIL FAMILY.

Amongst the lingering survivors of those old social remnants, whose final extinction we have just recorded was the last representative of one of the great families of the old times and systems now passed away. This family was that of the Selphnils. In its high days of those old times, there had been Dukes of Selphnil, with great property inheritance ; but when primogeniture and entail laws and other artificial family props had been done away with, and, as the new rule, every one had to stand or fall by his own qualities and merits, the Selphnil family fell all behind in the common race, and, sad to say, its last representative died in the Public Charity. All that remained of the old grandeur was his name. Even that the neighbours had inappreciatively abbreviated ; but while they called

him only Freddie Selfie, the proper family and baptismal designation was Frederick Adolphus Constantine Maximilian Ferdinand Alphonso Nicholas Wilhelmus Napoleon Cæsar Augustus Tiberius Selphnil.

The great Selphnil family had been more conspicuous in these modern than in more ancient times. There were not so many Selphnils in feudal days. In tracing back the particular family line now in question, some trader or banker turns up with a deal of money; but the family in after times do not dwell overmuch upon this fundamental personage. It little matters, to be sure, whether his name was Brown, Jones, or Robinson, seeing his descendants changed it, when, at an early stage, they married into the Selphnils, and took their name. These Selphnils, after that accession, with large and entailed estates, became a great and flourishing family. They could proudly boast that Selphnils were to be abundantly met with throughout even the very highest ranks.

The staff and stay of Selphnil greatness was "the family." The mere individual personality disappeared. Apart from his family and his nobility, as the first duke gloried in saying, he himself was nothing. The family fortunes were at their height with this first Duke of Selphnil. There had previously been in succession, Baron, Viscount, Earl, and Marquis Selphnil. The great life's aim of the baron had been to be viscount, of the viscount to be earl, of the earl to be marquis, and now, from a marquis, the family ambition, with its traditional instincts, turns to the dukedom.

But the path, even to such honours, in these com-

paratively practical and prosaic times, was not always up to the noble marquis's mind and taste. The premier of the day, for instance, with whom he must needs come in contact about this coveted honour, albeit, happily for the marquis's cause and prospects, of Conservative politics, was, as the marquis described him, one Smith, who was not only destitute of the slightest particle of nobility in his family, but who, even worse still, seemed indifferent on that point, and whose immediate ancestry, to use the marquis's dignified family-like expression, for even but a single step backwards, had actually kept a shop.

To such a premier, then, he, a peer of the realm, must needs address himself. The said premier was, first of all, a man of business; and, in his cordial reception of the noble marquis, he had at least one eye upon the large family estates, and the number of votes that might possibly come of them in times of need. But there was still one difficulty attending the noble marquis's application for promotion. What were the merits? What could the willing-enough premier plead, to a critically curious, and not seldom rather troublesome public, as warrant for the required step?

The marquis had to suppress, as he best could, his indignant sense of this modern method with the noble and titled classes of society. Were these honours then to be trucked and trafficked for, as though peerages were the common articles of a market? Merits, forsooth! He had thought that a sufficient merit might have been his being already a marquis, in claiming to be a duke. In the end, Premier Smith, it is to be feared, was "the unjust judge" of that occasion with

his importunate suitor, and perhaps for much the same reason as swayed his prototype. So the marquis became Duke of Selphnil.

But this Smith was, after all, an incurably vulgar fellow, as the following incident, in the duke's own experience and narrating, would show. A government berth had been resolved upon for a young cadet of the duke's family; and, of course, the youth's high connections were all duly arrayed in the duke's application on his behalf; so that he was run in, upon all this recommendatory category, as for assured victory. But what are the young man's own qualities? asked the busy premier, somewhat abruptly. The duke tartly rejoined that he thought he had already well answered that question. The applicant, to begin with, was a distant connection of his own, besides having other nobility relations on the paternal side, and even on the mother's side he was—— But just at this completing climax of the exposition, the case would appear to have broken down, between the highly impatient premier on the one hand, and the highly offended duke on the other. At any rate the latter then swore that he would plead for no more cadets before Premier Smith; and, indeed, having now secured his title, he had resolved to cut that person's further acquaintance.

The duke belonged to the Nowurke branch of the Selphnils. But the Nowurke Selphnils were quite distinct from another noble family, that simply of the Knowurkes, who were also spreading considerably about this time. The duke rather looked down upon this latter lot. The two names, he said, sounded alike, but the spelling detected the true quality.

Having reached the summit of nobility in his dukedom, the duke's further ambition could be gratified only in the repetition of additional ducal and other titles. His great aim at last was to pile up all these upon his already crowded escutcheon. Thus, the name of any place that had become illustrious the duke would claim for addition to his category of titles. He would be earl of this, marquis of that, and duke of the other. Smith, his old enemy, while still premier, did not see much need to thwart his political supporter in that harmless and conveniently fertile direction; and thus, happily, there came between them, in the end, well-nigh a reconciliation.

So grand a life must needs be fittingly concluded by a grand death. The noble duke, in his later years, turned all his mind to this final family triumph; and, accordingly, the splendid funeral, and the grand monument, upon which was to be emblazoned all the family titles and greatness, were duly arranged for. If anything could have added to the proud satisfaction with which the duke must have gazed back from the tomb upon that resplendent monument of the titled glories of his house, it might have been the fact that another monument, to a different kind of human greatness, happened to stand over against his own, and strikingly to contrast its brief inscription, wholly destitute as it was of allusion to one particle of family nobility, or even a vestige of the current national rank, hereditary or personal, with all the length and fulness of the Selphnil honours.

The inscription on the great duke's grand monument ran thus :—

To

THE MOST NOBLE

Augustus Gustavus Frederick Adolphus Ludovicus Nicholas
Alexander Theodore Christian Maximilian Ernest Oscar Con-
stantine William John Henry Edward George Albert Victor
SELPHNIL,

who was fifth Baron, fourth Viscount, third Earl, second Marquis, and first Duke of Selphnil; Marquis Laplace and Duke de Lesseps; Baron, Viscount, Earl, Marquis, and Duke of Washington; Duke of Waterloo and Inkerman, of Aphgan-Robburts and Cairowolseley; Earl of Arkwright, Jameswatt, Smeaton and Stephenson; Marquis of Smithadam, Humeton and Gibbonville; Earl of Siemens and Bessemer, and Duke of Richardowen, Portdarwin, Huxleyville, and Tyndalton. Also, Selphnil MacSelphnil, and the MacSelphnil of that Ilk in North Britain; and Selphnil O'Selphnil, and the O'Selphnil of Bally Selphnil, in the Sister Isle, and territorially affiliated to the O'Shillelaghs of Donnybrook, in the most ancient peerage of Ireland.

The other monument above alluded to was inscribed as follows:—

To

CHARLES ROBERT DARWIN,

Fellow of the Royal Society;

Author of "The Origin of Species;"

Founder of his age's accepted Theory of the
Evolution of all Organic Being.

CHAPTER XII.

THE TWENTY-FOURTH CENTURY: ITS RELIGIOUS ASPECTS.

The reasonableness of our own religious ways and views may be best judged by transferring them to some other and opposing creed, in order to see how they looked in that changed light.—AUTHOR, chap. i.

When certain parties laughed at the Pope, the Pope said that people ought not to laugh at Religion.—AUTHOR, chap. xv.

THIS chapter, like its two predecessors, is to be devoted to one particular feature, but which, as in these other cases, will be found also illustrative of the time at which we have now arrived. In this chapter, then, I propose to deal with religious aspects. After five centuries of retrospect, how fared the various religious bodies of our country? How fared our great national Church, reconstructed, as we had left it, upon the comprehensive basis of Scripture? What were the religious aspects of the world generally?

THE GREAT MORMON CHURCH.

The future, Gray would assert, belonged to Mormon truth. Might he but see what his Church would be five hundred or a thousand years hence!—AUTHOR, chap. i.

The Mormon Church had by this time taken the first position in its original stronghold, the great United

States of America, and from that centre its churches and missions extended conspicuously over all the rest of the world. The head of the Church at the time in question was Pope-President Brigham XIV., who wielded his vast spiritual sway at the great Mormon metropolis, St. Brigham, formerly Salt Lake City, from whence, periodically, the Holy Fathers of the Church, of most blessed memory to all believers, issued their encyclicals, not merely *urbi et orbi*, like another erroneous and once pretentious Church, but in these days of science as Religion's handmaid, alike to the city, the world, and the universe. Such being the great Mormon standpoint, let us glance at one of Pope Brigham's encyclicals of this time. After an outpouring of blessing and parental love over all the faithful, he surveyed, in strains of wrathful pity, the whole outside Gentile world. How blessed a thing, he said, if the reign of God could be substituted all over the earth, instead of the reign of man! Must they not continue to aim at this most blessed attainment! An inscrutable Providence still tolerates religious error and irreligious agency in the world. It was not for them to presume to imitate such mysterious indifference. They must ever be ready, either by help of the blessed Danites, or by other available agency, to secure the whole earth for the blessed Saints' use, to the due honour of God, and the full maintenance of His Truth.

ITS TRIALS.

Their Holy Church had its trials. There was constant and cruel persecution, at the instance of an opposing or indifferent secular arm, in hindering and

circumscribing the Church in her divinely appointed domain of morals and religion, and denying her right, as the superior authority, to define the line which should separate the inferior secular power. Not only all over the world, but even in our own holy city St. Brigham, Roman, Greek, Anglican, miscellaneous Protestant, and countless other religious errors, are freely permitted to be taught, to the great distress of our loving heart, which would have all to be saved, and even by force if necessary, through Mormon truth. Then, again, there is an accursed so-called "liberal" element in our midst—a camp of traitors, whom the Church, but for the yearnings of her too loving heart even over disobedient and rebellious children, would and should have long ago expelled. Would not the political vote, which the Church could command, if all her members were but faithful, have long ago rectified many of her wrongs? Withal, however, the Church had also

ITS TRIUMPHS.

He would first turn to the divinely inspired infallibility of the earthly head of the Church, the prophet, priest, and revelator, who alone received Heaven's instructions. When profane objectors outside asked how the successors to our holy and blessed but fallible Joseph were infallible and therefore greater than their original, we easily answered such theological error and confusion by the plain statement that "the infallibility of the successor of Joseph is a tradition from the beginning of the Mormon faith." And when it was again helplessly asked from outside how all this could be known, we were promptly ready

to rejoin that "The Church itself can and does know its own evidence and its own tradition." The Church is thus above mere history.

And again, spite of all trials, was not this, in many respects, a blessed time to the Church? Were not the "holy relics" of old but blessed and still fragrant saints the objects of the daily worship of the faithful? Were there not miraculous apparitions still all about us, the holy and blessed old St. Joseph and St. Brigham appearing and reappearing to many? If these divinely sent apparitions were now vouchsafed only to young children and some few women, that was but a fitting rebuke and punishment to the unbelief of the age. It was indeed sad to think that the many striking miracles, so well established in the Church's earlier traditions, had now ceased in consequence of unbelief. But the Church's triumph was none the less for the simple believing minds of its true flock. The unquestioning faith of young children had been especially rewarded by miraculous apparitions—apparitions, too, which, in an exemplary way, it could hardly be doubted, had been of purpose made punitively invisible to the scepticism of more advanced years.

Mormon truth coming direct from Heaven, through its inspired earthly head, consequently he alone was infallible upon earth. In two grand instances in particular, in the Church's experience, was this direct revelation triumphantly and most publicly manifested to the whole world.

1. When, in our earlier history, the secular power persisted in interfering with our "peculiar domestic institution," and, forsooth, in describing as human

immorality that which, under heavenly guidance, our most Holy Church's authorities had sanctioned; and just as the Church, to all mere human seeming, was about to succumb to this gross secular attack, a direct revelation, just at the critical time, saved her. That revelation, as we all know, was to the effect that the sealing of the woman by material and consummating marriage was unnecessary, spiritual marriage being sufficient, nay, even preferable, as being less sensual, as well as a simpler and higher course. In one moment our devouring enemies were utterly baffled in their machinations, and the Church's triumph complete.

2. The great controversy about "The Language of Heaven" must ever be an inspiring recollection of the Church, as being conspicuously one amongst her many triumphs. The Holy Father, Brigham the First, of far-off but ever blessed memory, in addressing some foreign-speaking emigrants, then recently arrived in Utah, had exhorted them to acquire the English language, for English, he added, is the language of heaven. This remarkable statement passed comparatively unnoticed at the time. But after the Church had passed through the definitions of the infallibilities of her great earthly Head, the high import of this revealed and recorded utterance of the prophet, priest, and revelator of Mormon truth could not possibly be longer overlooked. Here then, truly, was a wondrous fact, given to the world through the Church. Where and how could mere science have attained such knowledge? And yet this said science was forthwith busy with difficulties, and brought on a controversy that required all the bracing up of true

faith. But, in this memorable controversy, while the fainter hearts amongst us at first hesitated, faith plunged boldly in, and pushed as boldly on to the victorious end.

At its outset, and for long after, the controversy was a fierce one, for science, in her blind self-reliance, had asserted that English was not even an ancient language, much less, as the language of heaven, the original tongue. But Heaven, which surely knew best, had answered differently; and thenceforward the Church, by her whole education and ability, defended and proved Heaven's answer. Soon the literature of the sacred subject became, on the Church's side at least, a huge library of itself; while the Church, as she was justly entitled, held in contemptuous disregard those of her opponents who adventured into the controversy without first mastering its literature. And thus the Church had admitted, at last, all the argument to herself; or, in other words, she emerged from the fight completely victorious. She was able to trace the original English of the Garden of Eden—perfect then, as now spoken, but lapsing, after the Fall and Babel, into Hebraic and other inferiorities, to be thenceforward redeemed, through our transitional and Hebrew-looking old English character, into the modern letters and language of perfect English, the language alike of earth and heaven.

OTHER OR LESSER CHURCHES: THE OLD ROMAN.

Other popes or religious heads sought at this time to enter a periodic appearance, as well as the Mormon,

although not always with equal commanding authority. Rome still held up her old head, but now at last in diminished power, and with relatively reduced following. She had continued her independent self-developing career, but every successive doctrinal step had developed a limping human element, unable to keep up with the pace, and either left behind by voluntary secession, or forcibly expelled by the truth-avenging Church. Thus, when the personal infallibility was defined and proclaimed towards the end of the nineteenth century, it was permissively an "Ex-Cathedra-only-Infallibility." But when the "Wholly-Infallible" question came on in the next century, and the grudging and faith-wanting spirit of the Ex-Cathedra-only-Infallible was finally condemned by the Church, and its half-hearted maintainers had seceded or been expelled, the triumphant Church emerged with narrowed dimensions; and these were afterwards still further successively reduced when the popes were made equal to angels, then superior to angels, and so on; the Church, however, always concurrently maintaining that all these steps were alike within the knowledge and tradition of the Church from the very first.

THE ANGLICAN.

Meanwhile, our national Anglican Church, Protestant and Scriptural, had pursued her quiet and steady, her comprehensive but unprivileged way. She avoided, in her teaching, those extreme views and doctrines which she held to have been tacked on, by after developments, to the simplicity of the original gospel, and which ever tended to throw a certain

moral improbability over religion. She thus undermined and essentially weakened one of the most active irritants to scepticism. Thus, too, she was able to count a much larger roll of Christian belief, and much more of Church attendance, than there had been in the comparatively meagre response of the past, all its sectarian and sabbatarian zeal notwithstanding.

OTHERS, VARIOUS AND CONFLICTING.

Reed was specially strong for common-sense in religion.—
AUTHOR, chap. i.

Turning next from this quiet even-tenour religious life of the great body of our society of that time, let us now view, in their more energetic aspects, the many, but in a comparative sense with the world's enlarged population, the numerically small surrounding sects. Ever aggressive as all of these were, alike upon the main body of quiet respectable society, and upon each other, the aggression was ever most vigorous where the doctrine was most extreme and the membership most limited. Truth, as they each explained this striking feature of their respective cases, lay deep in a well, and it was ever fewer and fewer who followed the descent to its most rigorous depths. These small outflanking bodies, then, all skirmished incessantly with the great mass of steady and quiet society, which, in their view, had been lulled to destroying sleep by devices of the evil one. But withal they still more vigorously turned upon one another.

Let us glance for a moment at some of their con-

troversies and contests. None were more contentious or more self-assertive than the various small Ultra-Calvinistic bodies. In particular, the Unmitigated Calvinists, as from a lofty pinnacle of faith, looked down in contempt, even upon such seemingly near kindred as the Mitigated and Reason-Reconciliation Calvinists; and as for the Use-of-means Calvinists, these Unmitigateds would not, spiritually speaking, even touch them with the tongs. These Unmitigated Calvinists claimed to be always equal to the uttermost extremity of their principles, scorning to shirk, in their ultra-elective doctrine, even the original chance-medley of the divine dice. The more they slapped mere human reason in the face, and the more unhesitatingly they accepted the slaps, the more were they assured of inclusion in the small number of the elect.

The Unmitigated Calvinists had special strife at times with the Reason-Reconciliation Calvinists, which, according, at least, to the record of the latter, were not always a success. The Reason-Reconciliation Calvinists have recorded the following triumph over their opponents. The latter had sought to pose the other with the following problem: Supposing Scripture to assert that a circle was a square, in what way was the revealed fact to be taken? The Unmitigateds had no sooner delivered their question, than they rushed the ground, by anticipation, with what seemed to them the only possible answer, namely, that the Scripture fact was to be believed simply as given. But the Reason-Reconciliationists entirely opposed this conclusion. "How," said they, "could a thing be what, in the very terms of the proposition, it was

not?" Their solution was completely different. They first defined the figure in question to be a circular square, and then, whatever that might be, they believed it accordingly.

These Reason-Reconciliationists record other victories. The Ultra-Wesleyans had complained that, in the terrible Calvinistic system, the divine hate seemed far broader cast than the divine love; whereas with them, on the contrary, the love so overflowed, as well-nigh to put the other out of sight. There ought, as they contended, to be, at the least, an equality. But the Reason-Reconciliationists hastened to explain. They frankly admitted that, on a merely numerical consideration their opponents might be right. But, on the other hand, as to that prime difficulty, the comparative handful of the saved, the unutterable infinity of the love, and that too from all eternity, and wholly without reference to personal deserts in its objects, made up altogether a leverage sufficient to bring the balance to an even beam.

A zealous Ultra-Mormon elder had challenged all outer Gentile error to a discussion upon proofs of Mormon truth; and the challenge had been accepted, not without general surprise, by a quiet Anglican bishop. On the principle, once for all, that one ultra-zealot could be out-argued only by another zealot still more ultra than himself, these ultra-type sectaries were usually let alone by all quiet and sensible mortals. And how, then, fared this exceptional case? The account of it, transmitted by the Mormon side, is very awful indeed, as illustrating the natural depravity and unreason existing everywhere outside of Mormon truth. When that truth was vindicated by such con-

vincing incidents as even infants of six or seven years—twice blessed little saints—longing and praying to be quit of this vile earth, that they might ascend at once to Mormon paradise, at whose bright shining gates those most holy and fragrant saints of the Church, Joseph and Brigham, were ever waiting to receive and welcome them,—when all this, and much more to the like decisive effect, was duly set forth, what was the answer of the opposing son of Belial? He merely said, in reply, that there were still available certain old institutions, at Hanwell and Bedlam, where such ecstatic states were carried to still higher perfection, and for which, therefore, all such true Mormons should go on to qualify.

Miraculous intervention, on their special behalf, was the great aim and ambition of these various and interwarring sects. Each body claimed, of course, countless invisible miracles in its own behalf; and each knew that while its own miracles were true, those of most of the others were but the devices of the devil. But what was specially longed for by each body—and, oh, how longed for!—was but one unmistakable miracle that might, perforce, be seen and acknowledged by all other and opposing bodies. Many attempts were made by one and another, and with no small adroitness, to force Heaven, as it were, to show its hand in their special case. “Answers to prayer” had been in chief favour as a leverage of this kind, and most sects had more or less of a triumphant record in this way. There had been quite a mania in that particular direction about this time; and this trap system, as it was called, had resulted in various triumphs to many various sects. Let us turn for illustration to the case

of one of these bodies, which had been even more than usually paraded by its members for its signally striking results.

This was the prayer-answering case of the Ultra-Evangelicals, a residuary body, left behind after the great mass of the original membership had subsided into the common national and scriptural church. This body had selected an ingenious and notable plan for forcing, as it were, an answer to prayer; and its members have themselves put on record their high satisfaction with its success. A church order was issued to the effect that all the Ultra-Evangelical Hospitals, on the one side of a certain line, should be diligently prayed for, while all on the other side should be as diligently omitted from prayer. The hospital was still a necessary feature in life's crowding conditions, and religious and proselytizing zeal were always still more wanting and wishing and creating the necessity. After a due interval, the results were collected and reduced.

There was no small consternation throughout the body at the first aspects of the result. There appeared, indeed, as expected, a difference between the two sides; but it was, after all, but an unimportant matter, and, what was much worse still, it was actually against the side prayed for. Hereupon, however, a member, who belonged to the Statistical Society, administered some comfort, for the moment, by the explanation that the hostile fraction, as it was called, would have entirely disappeared had the areas of cases been larger. But the Church leaders were soon aware of the utter unsatisfactoriness of this secular explanation of the said fraction. That indication as they

now, after due deliberation, held was obviously divine disapproval of what had been done, and as such it was, when rightly viewed, as much a prayer-answering miracle as would have been any other result.

And thus the whole business was about to be finally disposed of, and indeed with the expression of no small satisfaction to most of the body, when an event occurred which altered entirely the aspect of the whole case. An old woman had confessed to having prayed for the proscribed hospitals. What the poor woman actually did was to emit an involuntary ejaculation on behalf of an only daughter, who lay at the time in one of the hospitals of the proscribed series. But this was, in effect, of course, a prayer for all in that particular hospital; and, if for one hospital, then for all in the proscribed list. Indeed, the poor old creature herself at last saw all this as clearly almost as the zealous brethren who had suggested it all to her.

Well, then, here was truly a grand marvel! The poor woman's daughter indeed died, as one more unit of the current hospital averages. But there remained the amazing fact, and not more amazing than beneficially humbling to our natural pride, that the mere casual ejaculation of this one poor old woman had been of equal, nay, even of fractionally greater, efficacy than the united supplications, disciplined and marshalled forth, from the whole Church!

CHAPTER XIII.

THE DAWN OF THE TWENTY-FIFTH CENTURY: ITS
GENERAL ASPECTS.

My great subject was the crowd of the world's future. Nationalities would be all merged in those great days.—
AUTHOR, chap. i.

NEW AND ENLARGED CAREER FOR OUR ENGLISH RACE.

WE have now reached a great era in the history alike of our country and of the world, when the old international distinctions are all to merge into one common citizenship over the whole earth, one common industry and progress, and the facilities of one common speech. There had been already, in various ways, a heralding of the approach of this new and grand era of the world's development. Latterly, the world's progressive aspects had made it obvious to most observers that this great change was approaching. But it was not until just upon the twenty-fifth century, that the formal abandonment of separate nationalities, and of their respective separate governments, took place, making thereby, of the whole world, one great and undivided human society and interest.

This was, so far, a fitting result, inasmuch as we

had, by this time, seriously altered or upset all the old traditional territorial divisions and landmarks. Who of the nineteenth century, for instance, looking upon the geography of the twenty-fifth, would have recognized that once insulated Old England of the earlier time? At the time we have now reached, the North Sea had been filled up in all its middle and southern shallows; and these great reclaimed areas were then occupied by a countless throng of busy humanity, where the Dutch-German, the Belgo-French, and the English elements freely commingled in a career of arduous but amicable rivalry. Continuing south and west, the Channel had been largely filled up by united English and French effort; while of the old Irish Channel there survived but a wide streak of the deeper water, to diversify the bright new landscape which had been rescued from the waves upon either side. Elsewhere also, far and wide over the world, the great oceanic expanses had been vigorously invaded, and all the shallower half of their areas been already redeemed to the world's *terra firma*.

A vast, unprecedented population of this busy mankind now overspread the world from pole to pole. The term "vast," however, is used only comparatively. The world's population then was vast enough truly, as compared with five centuries before; although it was but small indeed, as compared with what we have attained to now, after five more centuries have passed over our busy race. The world's climate, too, had been already sensibly changed throughout, as the effect of those *terra firma* extension operations with which we have since, in these five subsequent

centuries, made so much still greater progress. The narrowing of the evaporable surface everywhere had diminished everywhere the old violence of all our meteorologic forces. Already the world was, to an appreciable degree, freed of dark, heavy cloud masses, heavy and protracted rains, violent wind storms, and angry degrees of thunder and lightning. We, in the twenty-ninth century, have still much further triumphed over these common disturbers of the peace of the past, which have indeed no longer even the pretence of agricultural wants for their uncomfortable, inconvenient, business-hindering, and ladies-bonnet-ruining infliction. Who, I say, would ever prefer to go back to those old ways and freaks of the weather, from whose extremes we have happily now been so thoroughly freed?

OLD ENGLAND'S LAST PREMIER.

Let us look back, for just a passing moment, upon our Old England, now about to expire as a separate and distinctive national existence, and to be swallowed up in that progress of the world to which she herself, after planting her energetic sons far and wide over its surface, had most prominently contributed, thus giving place to that "larger Britain," as she might now claim to call the entire world. The last premier of this Old England stands before us, to make his opening address to the venerable Wittenagemot of his age and country. There still survived, in form, the old Commonwealth administration of a premier and his ministry, responsible to a representative Parliament. But otherwise the political drama had materi-

ally changed in many of its aspects. There was still an ever-advancing "Liberal," and a restraining and opposing "Conservative" party in "the House" and in the country; but the aims and objects of the two contending political bodies were strikingly different from those of five centuries previous. Political attention was now, and had been for some time before, absorbed by the grand question of the impending change in the disappearance of international distinctions in the world. While the Liberals had been cherishing and promoting this idea, as one of the fitting consummations of human progress and brotherhood, the Conservatives, on the other hand, had been strenuously, almost even bitterly, opposing it, and vehemently declaiming against all this upsetting and erasing of the good old world's landmarks, systems, and institutions. "Are you a Nationalist, or an Anti-nationalist?" was then the great cry. How odd such a controversy looks now! We, who are so long accustomed to the larger and nobler idea, look back in wonder upon these narrow prejudices of the past; but, at the comparatively early time we speak of, there was still a hot dispute over the merits of the prospect, and a daily expenditure of much argument and eloquence on either side.

The premier to whom we have just alluded, as having been the last of his political race, was a Liberal; and the final triumph of his party and its cause was achieved when he formally surrendered his distinctive premiership, and, along with it, a distinctively English nationality and Government. Thenceforward the whole world became virtually one people and one political administration. Practically, how-

ever, government went on much as before, there being no grounds for any disturbance of a revolutionary character. If certain changes had become inevitable in the nature of things, yet the people everywhere were busy, well-provided for, and contented. What had actually been done was only the formal acknowledgment of facts—the abandoning of nominal international distinctions, after the realities had practically ceased.

HIS PORTENTOUS SESSION—INAUGURATION ADDRESS— THE FEATURES AND SIGNS OF HIS TIME.

Our said premier, on first acceding to his high office, had cast a portentous glance ahead upon this main question of the day. Possibly he had not contemplated the final change as being so near at hand as events were presently to show; and still less perhaps that the final triumph to his party should be dealt out by his own instrumentality. But, none the less, it was altogether a most interesting occasion, when he essayed to shadow forth the imminent expectations of all the larger-minded of his countrymen; and, after a sarcastic allusion to the Conservative gloom over that prospect, passed on to the usual survey of the world's condition, progress, and prosperity, a survey which had long been one of the prominent features of premiers' addresses.

In following our England's last premier in this direction, we shall omit his allusions to the grand aspects presented by the scientific progress of his time, because we have in view to take, in our next chapter, one connected glance at this vast subject.

We shall recall some of the most prominent of his other statements, distinguishing, as they do, this turning point and departure in our national history.

SOME STRIKING FEATURES OF HIS TIME.

Although the world, in this premier's day, had not, by any means, attained the advanced position and the huge population it can now boast of, yet there was a very substantial advance towards the grand modern destinies. We have seen that the edge of troublesome meteorologic disturbance had been already sensibly turned. The comfort as well as the profitable enterprise and uninterrupted industry of life had been further most materially promoted by the common system of interposing, throughout inhospitable latitudes especially, the protection of an overall glass roofing. This was the more needed when, by the gradual diminution of cloud and vapour in our atmosphere, through the contraction of the evaporable ocean surface over the earth, the ever-clearer sky gave us sharper alternations of heat and cold, especially between night and day. But now, on the other hand, our protecting glass, by way of a closer drawn and more reliable overhead sky, enabled us to make ourselves comfortable everywhere.

The system of subterranean abode to which the premier next adverted, and which has now, in our own more advanced day, been of stern necessity so universally developed, had made, however, even at this time, a fair progress. There was still, in that day, some natural variety of hill and dale scenery remaining over the world—unlike, in that respect, its present

condition, which has at last dispensed with all that imaginative sort of thing, so soon as it came in the way of people's more solid interests and wants. The ocean shallows had already, as we have said before, been filled up, partly by the levelling of the old hills, and partly by subterranean excavation. A goodly proportion of people, who had been crowded off the surface, in what was, then, at least, deemed to be crowding—had gradually taken to subterranean life. But there had not then, by any means, arisen that dense mass of layer upon layer, in downward succession, which now characterizes our subterranean existence.

Next, in our premier's address, came the food question. How are all the people off in that respect at this time? Indeed, the time in question was not more one of the political transition we have alluded to, than of a transition economic, and, in the most literal sense, corporeal; for the last remnants of ploughs and spades had already been surrendered as things of the past, and we at length depended entirely on the chemical laboratory for our food. And truly, in spite of occasional longings for the old flesh-pots of Egypt, a very good and sure source of supply it has proved to be, say I, speaking of it five centuries further on; and one also that has elevated our great provision trade out of the tedious and costly delay and the unsavoury dirt of the natural processes of the old ways of it, into the summary action and cleanly processes of the ways chemical.

People had not yet, indeed, by that time, opened the more modern chapter of doubts and fears about the due supply of phosphates and other indispensables

for our bones and our brains; nor did they depend, as we have now to do, upon our twice-blessed and productive dead, who were then, perhaps, more of trouble than profit to the living, whereas now, in such striking contrast, they are our indispensable heritage of good things. Our premier's total omission of both of these great modern questions, for good or for evil, of our day, showed that they had not yet loomed seriously upon the horizon of his much earlier time.

The premier concluded by an inspiring allusion to the great progress of his time through the universal application of convertible energy. What might he not have said on this vast subject, if he could but have been resurrectioned into our time! Still, he had something to boast of even in those far-back days. As he glanced over the world's busy scene, he remarked that electric light had everywhere, when required, made the night as bright as the day, while electricity mainly supplies all their locomotive energy. And already, as he remarked, they were helping themselves to electric force, freely and cheaply, out of the sun's ample stores. The crowding earth had already, indeed, inaugurated the relief of aërial travel, that great feature and resource of our own more advanced time; but the old railway era had not yet closed; and the premier could allude with triumph to the fact of his day, that our great trunk lines, retaining still their venerable old names, and radiating still from the vast metropolis of England, were no longer arrested at the shores of the narrow old island. Our Great Eastern Line, for instance, then passed outwards and onwards over the wholly reclaimed North Sea continuously to Eastern Europe and furthest

Asia ; while the South Western Line crossed the like reclaimed Channel to further western reclamation-extensions of France and Spain ; and the Great Western Line, coursing over the *terra firma* of what was once the Irish Sea, and through old Ireland, slipped out upon the great Atlantic area, over those already inaugurated bridging projections, which, from either side, were in after centuries to meet in lines and areas of solid ground over the whole interval. And already, too, had the enterprise of the time laid down, through intervening ocean depths, a highway to one of our chief outside gardens of climatic delights, our cherished Island of Madeira, which, with the express speed of the time, over the diamonded iron rails, so far surpassing in hardness and duration the old steel or merely carbonized rails, was like a kind of rural suburb to the metropolitan home territory, with the ever-fresh ocean still skirting the route, and serving, instead of intermediate open fields, to relieve the eye as it fain alternates from the crowded landscape.

Thus pleasantly, as well as with the aspiring ambitions of his day, discoursed our premier of that expiring twenty-fourth century ; and we must hope that he lived well into the twenty-fifth, so as to witness and enjoy some substantial share of those further wonders of progress, of which we have still to speak.

THE CROWN OF LABOUR.

Reed would speak of “the Crown of Labour” as that which excelled and was to outlive all other crowns.—AUTHOR, chap. i.

Before concluding our remarks upon this interesting transition time of our retrospect, let us glance at one

characteristic custom of the time, that, namely, of the public competition for, and the public award of, "the Crown of Labour." Long prior to this time, a custom had been established of thus doing honour to labour. The aim was to do honour to a righteously useful life. In the annual recurrence of this national custom for each English county, there was somewhat a revival of the early Greek games, at all events in the national enthusiasm that was evoked. But the modern contest had a higher and more ambitious moral; for instead of mere feats of body or mind, it concerned the useful work of the whole life. The candidates respectively submitted all the beneficial activities of their lives to the appointed judges; and each candidate, as the reward of a life, which, under all the circumstances of its case and of its time, was the most diligently and usefully spent, claimed the crown of labour.

About the time we are now engaged with, namely, towards the end of the twenty-fourth century, the usual annual contest was distinguished, on one of its occasions, and in one particular county, by a rather remarkable candidate. These county divisions of our still distinctive Old England had not yet been obliterated. The county in question was Berkshire, and the candidate alluded to was an accomplished young maiden, who bore the high and ancient name of Victoria Guelf. And she rightly bore that historic name, for she was a lineal descendant of the old royal race of her country.

There were many Victorias of that time, a name still given in honour of the distinguished queen of the nineteenth century, now, of course, long gathered to

her fathers. The royal family had, in centuries before this time, settled chiefly in three great groups in the country, and had mostly become, in common with the multitudes around them, industrious and useful citizens. One of these groups occupied the Balmoral vicinities in North Britain, where, as Guelfs or Gaelfs, and finally Mac Gaels, they were gradually swallowed up into Highland nomenclature. Another took to the pleasant Isle of Wight, and developed into a family of Gulfs, after John Bull's slumping way of changing "Bolougne mouth" into "Bull and Mouth," and "God encompasseth us" into "Goat and Compasses." The third group remained in the Windsor neighbourhood, keeping to the pure original name; and now, on behalf of the family county of Berkshire, the youthful and accomplished descendant stood forth, in the spirit and equalities of those times, to contend with the world for the crown of labour.

Although but one amongst England's many counties, and also amongst the smaller of them, Berkshire, at this time, presented comparatively a really great field; for, within its very limited area, it now contained half as many people as had owned allegiance to its fair young candidate's illustrious ancestor, throughout her then wide and comparatively great empire of five centuries past.

The mode of procedure, in the awarding of the crown, was for the judges, as the first step, to make up a pile, fairly representative, upon the best evidence attainable, of each candidate's life labour. This pile would be swelled out meritoriously in some directions, contracted in others, and of an average bulge elsewhere and so on; and it was afterwards for the

candidate, or the candidate's supporters, to point to the merit indications, and to explain or excuse the less favourable or the adverse features of the truth-telling pile. Each candidate stood by this testifying document, waiting the turn and opportunity for an explanatory or justifying address, alike to the judges, and to that vast confronting audience which constituted the ultimate jury of the great trial.

An audience of those times could be vast indeed, for science progress, however far short of our modern attainments, enabled millions of eyes and ears easily to see what was done and hear what was said. Telephones and photophones conveyed the voice clearly to all distances. And again, ever since cross-electric discovery enabled us to fabricate diamond, almost without either cost or trouble, out of any carbonaceous rubbish, sight-glasses of every kind were so marvelously improved, that any extent of audience, far off as well as near, might be attent, alike with eyes as with ears, when far outside of natural sight from the speaker.

By these and other advances of the science of the day, public speaking had become something very different indeed from the old gesticulating and exhausting method of past times up to the nineteenth and even the twentieth centuries. Immediately in front of any one addressing the public, on any great occasion such as that we now treat of, were arrayed all the paraphernalia of science for conveying the voice clearly far and wide. Then, again, the surrounding reflectory apparatus sent the speaker's reflected self to accompany his voice. It was for him to stand perfectly still within all these scientific surroundings,

much as when one's photograph used to be so leisurely taken by the imperfect science and art of five centuries before. The practised calm of the experienced public speaker of the twenty-fourth century could do this; and, without moving a muscle that was unconnected with speech, pour forth streams of impassioned eloquence. But, as with the old photographing of the nineteenth century, so the novice of the twenty-fourth would need artificial steadying, lest the features of his person and the sounds of his speech should be alike blurred by the imperfect focussing.

The youthful Victoria stood, in line with the many others, courageously by her pile. Ascending the rostrum with characteristic composure, when her turn to speak was announced, she made a first favourable impression by beginning her address at once without ceremony, and without requisition for any artificial aids. Most fair and winsome of look, and with the ever-attractive bearing of a direct simplicity of purpose, and withal still in the fresh youth of her teens, she quickly excited a general and lively interest throughout the vast audience. Leaving the favourable aspects of her pile to tell their own tale, she turned directly and solely upon the less favourable, as well with the delicate reserve which the case required, as with that judicious brevity, which, even then, five centuries back from to-day, was alone endurable, where so much other work of the busy world had to be crowded into its too brief and fleeting hours.

The defensive line was well chosen, for it was in entire accord with the sentiment of the time, although it might have sounded somewhat oddly from such a quarter some few centuries earlier. "If I may be

allowably proud of my ancestry," said the young candidate, "yet my ancestry gives me no help in this contest, which is entirely one of the present, the real, the personal. Nay more, my said ancestry blocks the way, as I brace up to confront true battle; and I may well envy, for this occasion at least, those of my opponents who are, in that respect, wholly unencumbered in their march. If I have indeed succeeded in making myself not unknown to literary fame, and to a great audience even far beyond my own country; if society's many sorrows have not seldom touched my heart, and directed my steps to bereaved homes around me, remember, in my behalf, that all this is in spite of high ancestry, and of the time-absorbing pre-occupations of an exacting social condition, entirely beyond my own choosing, and certainly of the very smallest advantage to me with its special handicapping in the present race. And may I not plead also, that the past liberality of a great nation, in providing but too amply for my family and myself, however honourable to the giving party, has yet, in all its paralyzing effects, proved by no means the least of the obstacles besetting my path in this my ambitious race for a new and a true crown?"

Let us here glance, parenthetically, at another characteristic incident, which added its variety to the Berkshire programme. Just as all the Berkshire addresses had been concluded, and the vote was about to be taken, with all the rapidity and precision of advanced scientific arrangement in these matters, so as to conclude the whole procedure within the business day, word was brought that the adjacent county of Oxford had just signally distinguished itself by a noble

and independent choice for its yearly labour-crown. A centenarian veteran, an agricultural labourer, had at last laid down his spade, because the country's crowded surface, the advanced chemistry of the day, and all the changed ways of these later times, had entirely superseded both spade and spadesman. After a long, laborious, and signally useful life, it only remained for the weary veteran, ere he left the world he had served so well, to claim of his county the crown of labour; and to the honour of that special world of classic and scientific attainments and reminiscences, his appeal was not put forth in vain.

And so also in Berkshire, with no less credit, albeit upon a different line of consideration, was the crown awarded to our youthful Victoria. But it was no easily won battle withal, for close upon the heels of the victor followed a troop of formidable, if unsuccessful, rivals. There was, first, a distinguished astronomer, who had laboriously compiled the exposition of the birth and entire physical development of the asteroidal group of our system; secondly, a widowed and struggling laundress, who had so brought up her large family, that every member of it afterwards rose to prosperity and distinction, and aptly illustrated the nature and training they owed to her by gratefully bringing their sheaves of plenty to the feet of such a mother; thirdly, a geologico-physical geographer, who, in his grand school atlas, had completed the earth's aspects back to the early tertiaries; and lastly, a smart brigaded young shoeblack, whose successive improvements in his machine, as to time-saving and reduction of charge, marked quite an era in his particular vocation,—for in those days machinery did

everywhere, and uncomplainingly well, all the harder work of society, whether work clean or work dirty, while the old familiar term "shoeblack" had survived into times and ways which left it indeed but dimly applicable to the juvenile director-general of the ingenious little machine in question.

The crowning of the young Victoria was indeed a memorable incident of its time. The interest was increased by the circumstance of the extreme youth of the successful candidate for so high an honour. Her age, when she claimed the crown, was but eighteen years and twenty-four days. Old England had once more a Queen Victoria, whose graceful young head bore a crown. It was the only crown that had survived in the world into these times, the noblest of crowns—

THE CROWN OF LABOUR.

CHAPTER XIV.

SCIENCE PROGRESS OVER A THOUSAND YEARS' RETROSPECT.—

PART I. FROM THE DISCOVERY OF THE CROSS-ELECTRIC
TO THAT OF THE DUPLICATION OF THE CROSS.

Black had a notable theory, entirely his own, about crossing the electric current.—AUTHOR, chap. i.

I HAVE postponed the large subject of science, until I could enter upon it uninterruptedly, after I had taken my reader through our material and general progress, up to the dawn of the twenty-fifth century. With that century, as we have seen, comes so remarkable a change in the world's aspects and conditions, that it constitutes, as I have already said, a great era of division in my thousand years' retrospect. With that century, the world lost its distinctive nationality system, and finally completed its graduation into one great homogeneous society, to the immense advantage of all human progress, and, not least, of that science progress which I am now to record.

The science progress of these past thousand years may be divided into three grand eras, which are, respectively, that of the cross-electric discovery, the discovery of the duplication of the cross, and lastly

that of the reduplication. The first came to our help not a very great while after our retrospect opens ; the second occurred towards the midway years ; while the last, and, for our time, the crowning triumph of all, came off within our own century, and even within the term and recollection of many now living. This last was, in short, the unprecedentedly grand discovery of my most illustrious and venerable friend Black, a discovery which has enabled us to transmit not only our minds in our messages, but also our own material selves into far space, in order to meet and commune personally with other beings out there, and to enjoy the reciprocation of their like personal intercourse.

THE CROSS-ELECTRIC PRINCIPLE.

To go back to describe with any fulness the cross-electric principle, a subject so long ago familiar even to our school-boys, would be unpardonable waste of time at this advanced and busy day. I shall, therefore, merely observe, that its discovery gave us a power to handle the organic as we could previously do the more simply chemical. Thenceforward we entered, with renewed and marvellously increased facilities, upon organic production. When the crowded earth had no longer room for provision-growing in the ordinary and dilatory round-about of old nature, we were ready, by aid of the cross-electric apparatus with which science had armed us, to transfer the food-raising to the much narrower space-requirements as well as time-requirements of the chemical laboratory.

ELECTRO-LIGHT SPEED.

But as I have already alluded to that particular part of our science progress in my earlier chapters, I am disposed to deal here rather with another section, which was even yet more marvellous and striking, namely the conjunction, or say rather the co-aligning of the cross-electric force progression with the light-vibration, by which we attained that modern wonder of all wonders, the Cross-Electric Light-Speed, a speed which exceeded that of ordinary light in the proportion in which the space between the crests of the light waves exceeds that between the atoms or points of the ether medium. And again, enormous as this new speed was, we could further double it, when we afterwards understood how to transfer the electro-light line of progression to the wider-waved red and heat rays of the less refrangible end of the spectrum, from those of the violet and chemical, with which our great discovery had opened. In short, our electro-light line now, as it were, leapt the space between the light-vibrations in the same time as, while only simple light, it traversed that between the ether points.

THE DUPLICATION.

Clearly enough then, this enormous accession to our capability of speed must supposably give us a grand power in many ways. We could, for example, overtake ordinary light in its journey into space at its heretofore all-surpassing speed of over one hundred and eighty thousand miles in a second. We could

now, in fact, quite easily overtake a comparatively slow-coach speed of that kind ; but then, *cui bono* ? as we were fain to complain ; for after our new electro-light projection had overtaken some far-back light-wave projection, carrying away into far space the aspect of our earth, say a thousand or a hundred thousand years back, we were confessedly powerless to do anything whatever with the curious and most interesting picture thus overtaken. In short, we had no knowledge as to how such aspect or image was to be brought back into our vision and possession. And thus matters continued in suspense until that grand further discovery of the Duplication of the cross, by which we were enabled to bring back our world of the far past, to communicate with other worlds outside, and to enter that "Higher Life," which, as we are presently, as well as most pleasantly, to record, pervades the surrounding universe, as the result and reward of all this advanced knowledge.

But the protracted interval, until we had attained to this the second grand era, was filled up, none the less, by a wonderful activity, alike of business and of science progress. It would, perhaps, ill become me to dilate, in any vainglorious spirit, upon the prosperous innings which the new food-producing ways gave to that great provision trade which my ancestors had handed down to my family, and of which, as I am justly proud to think, I am myself now one of the conspicuous heads in the world. Of course all the laboratorial attainments of the present day were not jumped into at once, when, some nine centuries ago, the cross-electric power fell to man's disposal. He had to grow by

degrees into that ready ease and elegance with which we can now turn out, from our modern Liebig's, as savoury and natural-looking a "joint" as ever came out of the old butcher's shop of the long-past-and-done-with nineteenth century—with which, in short, we can thrust in, at one end of the Liebig machine, the valueless elements of air, earth, and water, gathered up freely for the purpose all about, and bring them out again at the other end as a hunch of bread or good potato, or a prime cut of fresh fish, flesh, fowl or good red herring, of dimensions and quality just according to order and money. The cross-electric power enabled us, as I have said, to fabricate organic structure, much as the simple electric power we were previously possessed of enabled us to fabricate crystallization and other of the simpler chemical processes. But, after all, we cannot yet infuse life into these cross-electrically fabricated organisms—much less, of course, the nervous and mental action. All that, as we are perhaps able, fairly and scientifically, to infer, pertains to steps still further on—might pertain, in short, to that triplication or ter-cross, to which we may or may not hereafter attain.

During no small time before the problem of the Duplication was solved, expectation had been all alive over the world at the supposed near prospect of the grand discovery. There was also another circumstance which contributed an intense and ever increasing interest in the case. Certain phenomena had been observed at occasional intervals, which, from our knowledge of the cross-electric, had impressed some of our more sagacious scientists of that

time with the idea of these being nothing less than messages from outside to our earth—messages which, from want of adequate science attainment, in short, from the duplication being still unknown to us, we knew not how to deal with. Repeatedly, in fact, we were aware, from certain effects produced, that a cross-electric bolt from outside had struck one of our many cross-electric conducto-attractors, which were already all over the world for an infinitude of purposes. Indeed one great electrician of those days, who had happened to notice close to him one of these phenomena, had, with more zeal than discretion, incurred a serious shock by trying to ascertain, at once, the strength and quality of the mysterious visitor. But as to all this we remained in powerless ignorance until the grand discovery of the duplication.

EXTREME SIMPLICITY WHEN KNOWN.

How often has it been said that the greatest discoveries are, of all things, the most simple when once they are known! How simple, for instance, is the law of gravitation! The great discovery of the duplication was no exception to this rule, and so soon as its mystery was made known to an eagerly expectant world, there was only universal wonder that a matter so simple and obvious had not sooner suggested itself. But anyway as to this, we had now at last acceded to the power, which, by means of that duplicatory arrangement, now so everyday a matter even to our school-boys, we could not only despatch our messenger into space, but make him also bring back the reply. The Energy-charge, that

is to say, could be divided into two distinct forces, in the proportions calculated and desired: the one an outward force, carrying the electro-light charge into space; the other a return force, which, failing any intelligent intervention for other disposal at its turning extremity, brought back the impression which the overtaken light-vibration was conveying, at ordinary light-speed, into far space; or, to speak with stricter accuracy, that which, exactly, was brought back was the reaction, or exact reversal, of what had gone out, and scientifically termed the "Duplication;" so that, for example, the rays of light which quitted our earth, say, ten thousand years ago, could be in effect, by reversal action, brought back so as to restore to us the aspect or picture of the earth as it was at the moment of the long past emanation. Of course, nothing was actually brought back; all was mere counter-vibratory effect—the power of the return or duplicatory force to reverse exactly the outward light-emanations, and to do this at electro-light speed. And also at any arrested intermediate stage of this return, the picture that was being brought back could have been reproduced just as it would have appeared at that particular stage or distance in the original outward light-emanation.

GRAND RESULTS FROM THE DISCOVERY.

But, not to waste more time over matters now so old and so well known, let me return to my historical record, and glance at the commotion excited by this grand discovery of its time. Further on it will be my privilege to allude to the much later discovery of the

Reduplication, so clearly and indisputably achieved by the venerable and immortal Black. But the discovery of the simple duplication is a less clear matter; for, in fact, tens of thousands put in their claims, as they had added fact after fact, each contributive to the great result, until that result seemed at last grasped simultaneously by them all.

No sooner was the new power publicly proclaimed and explained, than multitudes over the entire globe prepared to use it. Subject to the very exact astronomic calculations then attained to, messages began to be sent out in all directions, in order to get back our earth's aspects in past times; and those who were content with the briefer retrospects soon began, in this way, to harvest their due replies, and to exercise themselves in the new trade (afterwards so vast a business) of transferring the light-impress to the prepared surface of the quasi-photographic paper. But all this is rather what occurred in the after leisure of the earlier stages of the discovery; for the earliest excitements and the earliest efforts were directed to communications with our intelligent fellow-beings of outside worlds. This new and grand era, thus opened for our own little world, I must now deal with.

OUR "PRENTICE HAND" IN MISSIVES TO WORLDS OUTSIDE.

Which world, or which worlds, were we to begin with? The nearest, of course, was our moon. But our telescopes and spectroscopes had sufficiently assured us, by this time, that no intelligent life, at any rate no human life, was there, although we did afterwards, in

our own later days, upon personal visitation find there certain low-class organic existence. Turning then sorrowfully from this nearest neighbour, there lay next, on the one side of us, Venus, on the other side, Mars. The former was nearest; she was, besides, about our own size; and our science could already estimate for us that her greater dimensions than Mars, and especially her considerably greater heat and light supply, had probably placed her in decided advance, physically and mentally, of that other planet. In short, we were already guessing at what proved to be the case, namely, that Venus had, while Mars had not yet, attained to the duplication, and possibly (as proved to be true) not yet even to the simple cross-electric.

But then again, the fiery little planet lay far more temptingly exposed before us than the ever cloud-concealed sister on our other side. No doubt we had, by this time, quite ascertained, by repeated signs and glimpses, that Venus was indeed inhabited; but, as to dear little Mars, our telescopes and all our advanced photography of the time had perfectly familiarized us with all the varied surface, and with the towns and other constructions and works of all his busy people. As by one unanimous impulse, therefore, our first communications were directed there. Fortunately the planet, just at the time, was nearly in the best conjunction for the purpose, and having made due mathematical calculation, we were soon busy projecting our electro-light lines, so as to drop them upon the planet's surface.

A MISSIVE FROM OUTSIDE TO OURSELVES.

In our first comparatively rude efforts, many of our bolts, as we had to reckon, must whirr helplessly past the planet, while others would strike the seas or unpeopled spaces, and thus be quite unnoticed, even granting that the people had, in science progress, attained to the duplication. We had therefore to involve ourselves in a very considerable energy expenditure, in these our opening exercises, and we had by no means then that prompt and cheap energy-supply which we can so well boast of now. It was whilst we were all busy over these first efforts with Mars, all of them, of course, quite futile as to results, that, upon one memorable day, a cry was raised, and at once reverberated over the world, of a message to the earth from outside space. The fact is, that, in recollection of those previously inexplicable cross-electrical phenomena I have alluded to, which were now more strongly than ever suspected to have been such outside communication, the strictest watch had been everywhere set for them, we being now perfectly assured of our ability to deal with them. The electrical connections were therefore everywhere in readiness, and all the precise forms of procedure made generally known for all observers, volunteers and professionals.

The missive bolt, in this case, as soon as seen, was happily at once secured in electric connection; and now, in presence of countless observers, its behaviour was watched with breathless interest. Almost on the instant of the connection being linked, there appeared a play of bright light at the extremity of the

“pointer.” While all were wistfully gazing at this phenomenon, a voice suddenly electrified the assembly with the suggestion that this play of light was no other than the energy-waste of transmitted speech, which we were as yet unable to deal with. The suggestion proved to be correct. We were unable, just then, to transfer the ether vibration to the air, and thus to hear the transmitted sounds.

But, first of all, we must ascertain whence the voice had come, and this was happily quite within our power. Alike by the direction, and by the time interval of our response signal, we could not doubt that the message was from Venus, that planet being then comparatively near to us, and situated in her orbit just opposite to where the message line had struck our earth, showing, in this latter fact, a wonderful and doubtless long-practised precision of calculated aim. We were quite aware that our act of response to the Venus message would at once indicate to the Venus people the fact of our having attained to the scientific stage of the duplication. We were already, in fact, in electro-light line connection with that world, and it was now for us to wait upon, and learn from, our confessed superior. We were soon indeed aware, from the changed behaviour of the pointer, that our responsive action had been duly apprehended ; for, at once, there began that small but steady and uniform energy stream, which would prove the easiest of transfer from ether to air. We were not altogether unprepared for this transfer operation, but of course we had never dealt, in that respect, with an outside message. But, after half an hour's various blundering, we were at length aware

of success, by a Venus voice pouring into our ears, just as though the speaker were close alongside of us. It was a low and monotonous chant, suited to the purpose aforesaid. We replied in the like strain, in token of our common understanding ; and thus the two worlds were in established communication, while on Venus' part those educatory steps were at once begun, which were to graduate us into the language of that Higher Life, into which, as we were afterwards more fully to learn, we had now entered.

But having now conducted my record up to the discovery of the duplication, and described the commotion which that discovery gave rise to over our earth, I must reserve, for another chapter, some account of the new and vast world of knowledge, which this grand progress had opened to us.

CHAPTER XV.

SCIENCE PROGRESS IN A THOUSAND YEARS' RETROSPECT.

—PART II. FROM DISCOVERY OF THE DUPLICATION OF
THE CROSS, UP TO DISCOVERY OF THE REDUPLICATION.

Attaining, as Black forecasted, to knowledge and power as yet undreamt of.—AUTHOR, chap. i.

THE established routine of steps by which, under the tutelage of our new friend and fair sister Venus, we attained to the language of that Higher Life, into which we had now entered, is such an old and well-known story as to need no time-wasting attention here. I shall pass at once, therefore, to the new world of science and business to which our grand discovery had introduced us. The new tide that then flowed in upon us took two main directions: first, that of research into the past aspects of our earth; second, that of intercourse with systems and worlds outside of us. Later on, we entered into a third section of progress, by our success in rendering the duplication of the cross available to return to us photographs of outside scenes and worlds. In this way we secured pictures, magnifiable, even to life-size, of outside planetary and satellite scenery of some of the orbs of

our own system; while we had also, long ere this time, attained to the perfect transfer of the hues or colours of all photographed scenes. We could thus tell what life, if any, was upon the planets or moons of our system, and we were thus, so far, prepared for that actual personal intercourse to which the completing discovery of the Reduplication introduced us further on.

REPRODUCTION OF SUCCESSIVE PAST ASPECTS OF OUR EARTH.

Whether for science purposes, or for those of business, or for mere leisurely recreative curiosity, our whole world was soon now transformed into a busy scene of “fishing” into all the past of the earth’s history and surface aspects; and this fishing, as it is still called, has been carried on all these centuries since, even still more vigorously, as well as much more systematically, than at first; for as we gained in astronomico-mathematical precision, the results were ever more satisfactory, and were secured at ever less of energy-cost and energy-waste. Towards our own time, in this twenty-ninth century—all the astronomic movements, and their complex relative displacements, being so perfectly known and calculable, even to that latest of our attainments, the exact displacement, in speed and direction, due to our system’s movement in space—it has become quite common for families to dip back for the matter of a hundred or a thousand years, in order to recall their ancestry when in the very act of some particular incident or event. Of course this is a marvellously precise calculation, and even now not

easy of perfect success, unless with all the chances of some breadth of time involved in the occasion sought for. Thus if the ancestral doings in question had concerned, say, some *al fresco* public meeting, lasting for but an hour, there would be small chance of spotting our man, unless indeed the retrospect were only a matter of a century or so. Such short terms were ever the general favourites, because applicants were not kept very long waiting for their answer back from space; but the estimates for a thousand years or upwards were a much more difficult business.

On the other hand, there were great helps available to all parties, from the accumulated records, carefully preserved, of every previous fishing, whether successful or not for its intended object. Every restoration of the past, even although not at all that immediately sought for, might prove subsequently of use to some one, so that rarely indeed was any expended energy, however disappointing as to original intention, absolutely lost. Thus abortive particular efforts to find particular persons, times or events, were usually sold, at so much per year or century of retrospect, to those who made a business, and a good business it was and still is, of that sort of lore. Thus when the view of one hemisphere of the earth, at some particular instant of past time, was duly secured and was found happily to include what was specially sought for, that special section would be taken out by the parties interested, and the whole remainder sold in the market; or if there had been a complete misfit in bringing back either a too early or a too late time, the whole would be thus sold, and, if so inclined, another fishing ventured on. Those who made a business

of buying up all this surplusage, became by degrees possessed, amongst them, of a more or less complete history and physical geography of the earth's past. In fact, between the many of these dealers in the past, every day, hour, even minute, aye, and at times even successions of seconds, might be pieced together backwards out of all their arrears of records. And when these records consisted, as they did for a long time at first, of actual photographic paper, however thin the material, even to the metalloid preparation compressed to the hundred-millionth of a millimetre, the piles of such stock were, nevertheless, inconveniently bulky upon our crowded surface. But after that great discovery, through the medium of colour-sound (pressing necessity being, in every age, the mother of invention), by which we could transfer and store up the mode of that sound, so as to reproduce and retransfer at pleasure all the photographic hues and aspects, the whole case and in fact the whole business modes of the case, were fundamentally altered, and all its old accumulating difficulties dispersed.

A very good illustration of the ways and the means, in this now huge business development, is supplied by a case of my own, happening only the other day. A very distinct record had somehow come down to us, from as far back as just a thousand years ago, of a picnic, one Easter holiday time, at Brighton, the once-famous watering-place of those old days, in which my great ancestor, so often alluded to in this work, figured with all his family. This subject happening to turn up during the evening's leisure in our family circle, a wish was expressed all round to institute a fishing for this very picnic scene. My

wife, indeed, grumbled a trifle at the cost, which would certainly reach a thousand energy, that is £100 per century ; while I, for my part, demurred at avoidable delay, and would incur even the extra cost of the extreme heat vibrations. But first, there must, as usual, be a search amongst existing records, which might possibly supply us, ready-made, and at very much less cost, with just what we wanted. Accordingly we advertised our want, giving time, place, and some other guiding circumstances ; and curiously enough there was sent us, in postal course, what was apparently just the beginning of the very repast in question. It proved indeed to be the very event we sought, but in a most disappointing way ; for not only was our ancestral mother turned from us, stooping, and in the act of laying the cloth upon the beach gravel, close to the then new pier of the place, but our venerable father himself, who appeared to be busy drawing a beer-bottle cork, had also his stooping back to us, and moreover, by the embonpoint of his goodly figure, was shadowing from our view about one-half of the rest of the family. We all exclaimed that this was not satisfactory, and that a fishing for quarter to half an hour further on must be instituted. We accordingly passed the order to one of the companies (by the way, as I was one of its agents, I secured the trade discount), and were fortunate to have back, in duly brief time, a response view for 22' 11" after the time of the rejected picture, with the family all distinctly before us, and all, as we had expected, hard and most healthily at work with teeth and jaws. In order to live and work we must all eat, even if we are not usually seen to most striking advantage in that way.

CURIOUS QUESTIONS AND SOLUTIONS, SCIENTIFIC AND HISTORICAL.

Curious scientific questions opened upon us as, with unsated curiosity, we pursued backwards, to the uttermost limits, this remarkable branch of the advanced science of our time. Of course, as we projected our lines further and further into space, and thus proportionately back into past time, we ever expected that possibly, at some stage of these far-off journeys, the attenuating light-ray, when overtaken, would fail of characteristic reversion—would have, in fact, practically attenuated into irresponsible nothing, by that rapidly reducing process of the square of the distance. But no, we still pick up the ray, and still range through ether-filled space. The curious question as to the cessation of differential vibration, is indeed a remarkable feature of the case, and could, by itself, even if we had wanted other contributive data, have clearly shown that the spaces between the ether points, however small, were definite and measurable distances. But at the extreme end of the differentiation-vibration we were apparently no nearer to an empty and etherless space. Our messages have as yet unfailingly returned to us, if we except only a fair average, intercepted or destroyed by the fatal electro-light power of solar photospheres, or of any other occasionally encountered and dissolving force of that kind. The electro-light projection, as of course we know, cannot pass through its own kind, but is at once arrested and absorbed. Further on we shall see more of this, in the practical case of our own solar photosphere. Our message lines pass unimpeded through all bodies

and all forces unarrayed in that culminating force of which they themselves consist.

What striking results have, after all, come of this great branch of our knowledge! Every school to-day has its great atlas of the past of our earth; and every family may possess its own special atlas of descent, catching glimpses of its ancestry along the whole line of this descent, where, as in our own case, there are any guiding records to fix the connection or identify the restored scenes. What countless historical questions and problems have already been solved, by our grand power to bring back the actual places and events, and to look upon them and the actors, while in the very act of their history-making. Julius Cæsar, for instance, has turned up repeatedly, in the course of both his trips across the old Channel, and every school-boy can now see, for each occasion, whence he started, and whither he was obviously bound. We have long set at rest all the old dispute about ancient Troy. The building of the great pyramid has often turned up at various stages; and countless other old Egyptian questions have been solved, even to sighting the venerable Menes, after considerable chronological readjustment. Old Livy has been caught in the very act of writing one of his lost books, seated one bright day in the central *al fresco* of his own home; and thus three sheets have been recovered, while others lay temptingly about, but, alas! with their tablet faces downwards. Countless zealous ethnologists and evolutionists have searched for centuries, to their heart's content, amidst flint-chipping races, and still remoter missing links, until hardly anything more remains unexplored in that direction.

INTERCOURSE WITH WORLDS OUTSIDE: THE "HIGHER LIFE" OF THE UNIVERSE.

So soon as we had acquired the language of that Higher Life which we had now entered, a vast world of new knowledge, of course, was at once opened upon us. We were now made aware, for the first time, that the intelligent universe was mainly divided into those worlds which had attained, through science, to the higher life, and those which were still short of it. There was also, to be sure, a great section of worlds, to be styled unintelligent, because man had not yet arisen upon them, and of which our own system furnished examples in some of its outer planets and moons, as we shall afterwards have occasion to see. We shall also have to speak of a phase of human life still higher than the so-called higher life; but as to this and other kindred subjects we will not now further interrupt our main narrative.

Allow me, however, just this general remark, in passing, to the effect that the attainments of worlds, as we all now know so well, depend upon their relative position in their system as to heat and light supply, their size or mass, and the greater or less interval for progress, since their attainment, respectively, to dynamic equilibrium. As the rule, progress begins with those members of a system which are nearest to their sun. Thus Venus, although our earth equalled or surpassed her otherwise, had a more advanced development as being nearer to the light-source; while we, for like reasons, were in advance of Mars. According to higher-life rule, the outside world that lies nearest to a higher-

life world falls to the latter's charge, until, through science attainment, that heretofore outside world has entered the higher life. Thus we ourselves had been under charge of Venus until, by our knowledge of the duplication we entered the higher life; and now we, in our turn, had acceded to the charge of Mars. Accordingly we braced ourselves up to our new duties, which mainly consisted in a friendly watch over our lower and outside brother, and the occasional expenditure of a testing message, as with Venus, on past occasions, towards ourselves. Mars, as being smaller than the earth, had attained equilibrium earlier; but any advantage in that way was more than counterbalanced by our larger size and our greater heat and light, our pace being faster, after we had once begun. And again, those orbs which, as mostly happened, had equilibrated with a surplus of uncombined gases to form an enveloping atmosphere, and of watery or other vaporous elements to form rivers and seas, presented in due time the varied phenomena of life and mind. But our knowledge, although now so far advanced beyond that of previous centuries, is yet, by no means, quite complete in all these questions.

The accession of a new world to the higher life is always the occasion of great and general rejoicing, and of a good deal of energy-expenditure all about, in dispersing the joyful and exciting news. In our case, a goodly sized world, with many millions of millions of human beings, had been added to the census of the higher life. We received at once the congratulations of our nearest neighbours, Mercury and Vulcan, both of which, as well as Venus, had long

before entered this Higher Life; and later on came other greetings from further outside—from the Siriusites, from several of the nearer Centaurites, from the less remote of the Pleiadites, from the Orionsbeltites, and various others. Venus, who, of course, looked on us as her own child, gave us a number of introductions; and by thus tacking on to her ready-made lines, we saved, to a great extent, the heavy cost of opening independent lines of our own, Venus, however, debiting us, of course, a certain proportion of her first outlay. These ordinary and economizing ways related to the intercommunicating society which, in a comparative sense as to distance, lay immediately about us. But it was expected of each component world that it would extend the area of the higher-life society, and promote its intercourse, by some measure of independent action of its own; and as, in the ardour of our noviciate, we were resolved not to be behind in our new duties, we prepared to open up lines to far-off systems, in any of the heretofore less-explored directions, and vast energy contributions were levied accordingly.

SOME SPECIAL OUTSIDE ACQUAINTANCES.

The acquaintances we picked up in all these higher-life duties, and these missions of adventure, were occasionally very striking. The very first which we made, in the nearer society outside our system, and coming to us through Venus, was one of Sirius's worlds; and as this orb was in about the same position relatively, in its own system, as our earth was in ours, we took rather kindly to each other, albeit our new

friend was a very big fellow compared to us, had had a longer life, and knew a deal more than we did. We have, in fact, ever since kept up mutual friendly relations, as our widely circulated *Sirius Herald*, every morning on my breakfast table, may serve to show. We were much interested, through this case, in the effects of size or mass, as well as time, upon human progress, and ultimate attainments; because, as we very well know, the Sirius system, and for that matter a good many others, are upon a much greater scale than ours. But mere mass, although giving a stronger material frame, does little towards the higher intelligence, which depends more upon equilibrated heat and light, the latter especially. But again, speaking generally, the stronger the totality of force, the better eventually the human prospect. A very small world, such as any one of the inhabited asteroids, with its slight gravity force, and attenuated elements, will have a weakly human framework, as compared with the broad squat figures and herculean strength of our Siriusite friends. The heads, or rather the brains, surmounting in either case, are not, perhaps, in the abstract, greatly different, but then they are worked respectively by very different engine powers, and there is a different progress proportionately.

Sirius was comparatively our next-door neighbour, amongst systems of the outside universe. We had some much further off acquaintanceships, and several of the remoter ones were of our own independent looking up. In most cases of the ordinary instances, we joined in communications already established; and in this way, through Venus, or at times through other-world friends outside, we were placed in connection

with a large surrounding society. But again, as regarded our own independent explorations, as time wore on, improving our practice and increasing our energy-wealth, we would send forth, on periodic occasions, a grand mission of general search, on the chance of its touching some system or world not already within our pale. This was counted, indeed, high class liberality, for few indeed of such costly missions returned from their long journey with the results sought for. They mostly either passed unnoticed through space, or were arrested and destroyed by solar photospheres or other forms of cross-electric force.

On one of these exploring occasions, however, our missive entered a somewhat remote coloured-sun system, and, by rare good fortune striking upon one of its worlds which had already entered a higher-life society of its own vicinities, we were at once introduced to a new friend, who, in spite of the costly intervening distance, was disposed to reciprocate our mission, and with whom, as it is pleasant to relate, we have ever since maintained cordial intercourse. But although this far-off system had not yet been in direct relationship with our section of the higher life, we ascertained afterwards an indirect connection through another great section of universe to one side, with which our section corresponded. I shall have no little to say presently, about the remarkable coloured system in question. But there is another subject which it is now necessary to allude to; and that not only as an instance of marvellous progress in an age full of such marvels, but also because of its now intimate association with all this outside procedure of our world. I allude to—

THE CONDITION OF THE PRESS IN THESE OUR
MODERN TIMES.

The rise of the Celestial Press—for so we term the press connected with outside life, as distinguished from that of our own world—was not long delayed after our entry into the higher life, and our thorough mastery of the language of that life. We had the benefit of Venus's experience to guide us, and indeed, chiefly through that ready-to-hand experience, our press interests were started with a fair correspondentship in many star quarters. Soon the celestial news became as copious and quite as engrossing as the terrestrial. We have spoken of necessity as being ever mother to invention, and this was never more clear than in the case of the modern press with its countless customers. Some of the successive steps of progress form a curious retrospect, from the huge cumbrous old-fashioned paper "broad sheet," of the nineteenth century, up to the tiny four-inch square microphied photograph, which is to-day doubled into the waist-coat pocket, and all its full category of news and events read with ease through the common diamond magnifier.

Passing over various earlier stages, we come to that great step of printing by reflection-photography; and upon that again follows the compound-reflector system, by which copies upon copies, in broad sheets, comprising each thousands of separate newspapers, are reflectively flashed off with the rapidity of ordinary light-travel, over the successively opposed surfaces, laid out above or below, wherever space could be commanded for the purpose. But as withal, still

more and more copies, and quicker and yet quicker printing were wanted, as years and centuries rolled on, there came at last the great art of transparent printing, by which thousands of great sheets of transparent material, consisting each of thousands of separate newspapers, can now be simultaneously permeated by the printing rays.

But having thus to deal with many millions of copies of each paper, so easily produced, how next are they all promptly distributed? Let us enter a news-office at early morn. The printing machine has just laid down a large square mass, resembling a great old paving stone—one of many more that are quickly to follow. This square mass has been placed beneath an electric-cutting apparatus, which at once separates it into many four-inch square piles, consisting each of thousands of separate newspapers. Magnetic rods next attach the adjacent corners of these piles, and these so-charged rods, whose electricity at once separates each little newspaper sheet, are distributed to energy-mills all about outside, as far and wide as any particular newspaper has taken up its hand-delivery circulation. The passing public take these papers from off the rod; but as each paper is not electrically released without a preliminary turn of the mill-handle, the energy thus created and stored constitutes the payment for the paper. As most people are out in the morning for air and exercise, this ready and simple method is found to answer best, alike for circulation and account-keeping.

AN EDITOR OF THE TIME.

The "Editor's box," or, in modern sense, his own little private energy-mill, with its own special handle, usually stands, in modest rivalry for public attention, alongside of these stores of his newspaper; so that any admiring reader of some recent talented or racy editorial can practically show his appreciation by a few turns, more or less numerous or forcible, at the editor's mill. In exciting times, when some great scientific or other question is being hotly discussed, many a zealot in the cause, on one side or the other, may be seen furiously pulling at one or other of these editors' mills, to indicate his highest approval of the latest editorials. Nor is it a bad addition to the refreshment of his deferred breakfast of a morning, for an editor in these times, after the toils of the night, to find upon his table the matter of a hundred Energy, as that morning's collection from adjacent mills.

Editor-admirers, and other disinterested and benevolent persons, will often, in this way, give up gratis even the whole of the day's exercise-energy. Healthy bodily exercise is differently managed now from of old; for even if there were now room upon the world's surface for a "constitutional" in the old sense, that is to say a health-exercise walk, nobody would now dream of such unproductive waste of his strength. Thus every hand's turn, or the turn of any other human limb, is, in these busy and business days, made productive of wealth. When people want ordinary exercise now, they turn ordinary mills; if strong exercise, they go for all members upon tread-

mills. Brown and I dabbled in energy-mill speculation a while ago; and it did fairly well at first, until competition, which is the very bane of our day, made the profits not worth the bother. Our modern fiscal system is largely based on the same principle; for by an ingenious spring machinery beneath all our main thoroughfares, every passenger, by his gravitation, and forward impulse, contributes, at every step, to a public energy-fund. The impediment, or the force taken out of him is so small, that he is hardly conscious of the loss. And thus a substantial public revenue is made up; thus in fact we chiefly supply our public messaging energy. That illustrates a happy case of uncompleted profit-making. I only wish I could secure a spell of it!

OUR OUTSIDE-WORLD ACQUAINTANCE—COLOURED-SUN SYSTEMS.

Black would throw out some curious speculations upon coloured suns and coloured-light systems.—AUTHOR, chap. i.

By far the most curious and interesting of our outside acquaintance was that coloured-sun system to which I lately alluded. It constituted, indeed, the very rare case of a tri-system, all three solar members of which were coloured; one of the suns being bluish, another light greenish, and the third red, and a rather significantly deep red too. In dimensions the last was considerably the greater of the three. They all three effected a complex circuit round each other, each carrying its own varied family of planets with their moons and rings, and of comets and meteorite systems.

Now these coloured systems are still, in certain respects, a question of hot scientific dispute amongst us, many of the purely white-light systems, such as Sirius, proudly viewing them as the peculiarity, the eccentricity, aye, point blank, the insanity of the heavens. The coloured themselves take, of course, a very different view of their case, and have various theories of the special power and resource of colour, compared, as they would say, with mere cold common white light. Our coloured friends in question approached us, from the first, warmly in that view of the matter, and were ready to be eloquent upon the virtues of yellow, in connection with the slight, but, as they gladly assured us, the still quite appreciable tint of our solar light. We did not, however, quite respond, in the direction indicated, to this brotherly warmth. While not behind in formulating the usual courtesies of intercourse, we rather, in effect, said, on this part of the case, "drop it." In confidence between ourselves, the subject is confessedly a delicate one to those who, as in our own case, may be supposed just upon the borderland of either party. Our overzealous coloured friends, by way of putting our rights beyond question, always remind us, that on our first introducing the pure electric light, we described it as "ghastly," "garish," and by other such bad names, showing quite clearly thereby, that we had been previously unaccustomed to pure cold white light; and that, as they stoutly asserted on our behalf, we were, in common with themselves, of the distinguished coloured race—the true nobility of the heavens, as they would put the matter.

But, again, when we, for our part, discussed this

rather excitable question with the haughty Siriusites, and other pure whites, we rather made out that a very slight yellowish was softer to the eyes, and, while not really other than white light, was, in its accommodating way, rather the superior.

EFFECTS OF SOLAR COLOUR.

It was certainly to be expected that colour, which has such strikingly varied effect physically upon health and growth, should have also its effect mentally in the coloured systems. Indeed the coloured themselves at once admitted, nay, eagerly claimed this distinctive result; only that, while we whites saw but peculiarity, they themselves had in view superiority. Although science had explained, long ago, the superficial, accidental, changeable, and perhaps, in many cases, temporary character of sun colour, yet all this had but little effect upon our coloured friends' lofty theories about themselves. Nevertheless, however, we of the white-light order made an interesting study of their case, which we were the better able to do, seeing that no small number of their worlds had already entered the higher life as well as ourselves. Repeatedly, indeed, had it been experienced, that mental peculiarity from colour, amounting, in the deeper hues, even to decided eccentricity, was not always much of an obstacle to those scientific attainments through which worlds were passed into the higher life. And indeed it was in this view that our friends of the tri-system became to us a most interesting study. All three were, as it happened, not very much out with each other in point of age, and not very different,

in that respect, from our own case ; and thus, in each of their cases, as in our own, from one-third to one-half of the inner planets, respectively, had already entered the higher life.

A TERNARY COLOURED SYSTEM, BLUE, GREEN, RED, AND RESPECTIVE PECULIARITIES OF PEOPLE.

In this remarkable ternary system, the blue and green were respectively slight in hue ; but the red hue, being decidedly strong, gave expectation of marked peculiarity ; and, as we shall see, this expectation was not disappointed. The peculiarity of the Blues was mainly limited to an extravagant pride, or rather a proudly independent naturalness, showing itself, for instance, in female dress, which, with them, is always cut with exclusive reference to the form of the wearer ; whereas with us, at least in the simple old times a thousand years ago, to show off the dress was always the prime consideration, and one also, as I need hardly point out, of exemplary modesty and humility as compared with those proud Blues.

The Greens, again, present a somewhat kindred peculiarity in the sex ; for fashionable and high-bred ladies, especially if they are otherwise personally attractive, study the very plainest costumes, as interfering least with the effect of personal quality or superiority. Only the shy and timid, the excessively modest and distrustful of their own attractions, cover themselves with ornaments, in the two-fold hope of diverting attention from themselves to their jewels, and of making up for deficiencies which they modestly acknowledge. Thus the most brilliant

dress-displays ever excite compassion by the obvious modesty of the wearer. Many a poor toiling parent, as he reluctantly yields to the irrepressible entreaties of modest and diffident daughters, for the protection of more and yet more magnificent dress and jewelry, exclaims in despair that the very strength of the family virtues is to be his ruin.

But Red peculiarities were decidedly more serious than all this, inasmuch as they affected morals and religion. The religious views of our Red friends are, in substance, to this effect—that the future life is an exact reversal, or corrective, of the usually gross inequalities of the present; plenty and happiness here, resulting in want and misery there; and *vice versa*. Consequently the great object is to avoid or escape any great happiness in this life, in view of the inevitable Nemesis it brings in the life to come. The Red clergy are, in this way, laudably zealous and constant in their denunciations and warnings, and they ever find in the varying circumstances around them, a grand field for their eloquence. This religion is fittingly named “The Nemesis of the Grave;” and the zealous activity of its adherents has long since established it over the entire of the particular planet I am now dealing with in the Red system. Many a man there, who, by his industry and intelligence, has been successful in his world, attaining perhaps to high consideration and public respect for his qualities, or who, by a well-balanced mind, has enjoyed far more happiness than falls to most other people, has at last to face the terrible Nemesis that is to follow inevitable death. Then, at least, if not before, is the faithful pastor’s opportunity, as he duti-

fully labours to induce a miserable death-bed, and thus give one last chance to the poor victim's prospects.

On the other hand, transfer your view to the triumphant end of some miserable wretch, who, whether from misfortune or vice, has had neither peace nor happiness all his life. As the last sands of his glass run out, and his Nemesis draws near, crowds of clergy and other pious people perhaps surround his bed, in order to benefit by the edifying spectacle. Even if the dying wretch be so degraded, as to be utterly indifferent to his position and grand prospects, that only makes these prospects all the surer and brighter, and the surrounding comforters and congratulators all the more pertinacious. On a late occasion, when a dying burglar, worried out of all patience by this sort of thing, at last drew his jemmy from under the pillow, and cracked the skull of his nearest tormentor, a deep but mingled wail ascended from all the company; for while the wretched murderer had thus even added to his accumulated claims upon Nemesis, yet, sad to say, he had also suddenly sent a soul to its account in that happy, duty-doing, and unanxious state, the reversion of which beyond the grave was only too assured. When we gravely argued with these Reds that such incurably vicious wretches deserved rather to be punished, both in this world and the next, they expressed utter horror and amazement at such a view; and asked us, in reply, if people deliberately chose to be miserable instead of happy, hated instead of loved, ugly instead of beautiful.

It so happened that the particular planet we had fallen into correspondence with in this Red system was, like ourselves, the fourth from its sun; and the

case was the same also with our corresponding world in each of the other two members of this ternary system. Our rule, in fact, was to prefer introductions to those worlds whose relative position in their respective systems came nearest to our own. We have found, by growing experience, that, one thing with another, in the greater similarity of circumstances, we get on best with those so placed, each world understanding the other better than in the case of orbs either further inside or further out. Those similarly placed worlds are indeed our "flesh and blood" in a literal sense, to which most of the others, on climatic and other grounds, affecting corporeal composition, could not lay claim.

ITS STRIKING MIDNIGHT SKIES, AND EFFECT UPON THE MIND.

The midnight sky of each of these worlds, in their respective systems, affords, to the respective peoples beneath, a grand and impressive spectacle, which could hardly fail to enter into the religious sentiment in each case. To the Red population, the two surpassingly bright stars, of respectively blue and green hue, seemed to be the heaven and hell of future life. The earlier records show green heaven and blue hell to have been the prevailing orthodoxy; but, after long sway, this belief began to be undermined for that which advancing intelligence rather favoured, namely, a blue heaven and a green hell; which doctrine, after many years' contention, characterized by infinite zeal, cruel contention, and bloodshed on both sides, acquired at last the chief predominance.

To the other two systems, again, there was a different and even still more striking nightly spectacle. Let us take, for example, the case of the Greens. I may be supposed to have a bias that way, if there be anything in a name. After their own genially-hued, and, to the Green mind, perfect-light sun had set, a night scene at once beautiful and terrible succeeded the day. On one side arose the pale blue star, of all-surpassing beauty and brightness. On the other, a fiery red monster, which glared down out of heaven, conspicuously still greater in dimensions and power than even the other grand object, and which, but for the reconciling effect of habit, must have caused intolerable terror to all beneath its rays. The great, benign blue star was, of course, heaven, and the fierce and still greater red was hell; and much religious capital, and countless conversions, were made of such powerful religious accessories. When full mutual explanations had been come to, upon all parties advancing in science and finally entering the higher life, there remained, to the Reds in particular, the ungracious fact that their sun, much to their surprise, if not to a stronger and sharper feeling, had been regarded as the common hell of each of the other systems.

In Green religion, as I have said, much was made of this terrible red star, which was usually brought in, by way of climax, in the sensational section of Green preaching. It was thus common, with this section, to regulate church hours by the time of night when the red star would be best placed for commanding effect; and thus there had arisen quite a system of management of this effect. The well-

practised sensationalist had usually a movable shutter in the church roof, which he regulated by means of a string. At the fitting climax to which his discourse was leading, the shutter would fly open by a sudden pull at the string, and the terrible star would shoot his baleful rays amongst the excited or scared audience. Occasionally, and somewhat awkwardly, the string would snap under the too violent jerk of the impassioned preacher, and clumsy beginners would equally, perhaps, spoil their case. But, nevertheless, there was quite a rivalry in conversions in this way, and the more practised and adroit preachers, in counting heads for results, had a great reputation.

But even long prior to the advent of the higher life, which finally made sad havoc of these primitive ideas and ways, there had been a party against, as well as a party for, the shutter system. The former party, feeble at first, had been gradually gaining strength with the progress of science and of society. Shutter preaching began to fail of its old power; and at length for any one to speak of the "eloquent and zealous Shutter," as the sensational preacher used to be concisely called, had become at last a questionable compliment.

The coloured systems in general were zealous for outside conversions; and the remarkable system we speak of was no exception, the Red lights in particular being active and universalist. Of course our own various religious bodies were more or less active in this way also, and would send missions, under energy credits, far and wide. The great Mormon Church usually took the lead. When certain irreverent

planets laughed at her great pope, the pope made the memorable reply, that people ought not to laugh at Religion. But Red missions, at great cost, were sent even as far as our earth. Indeed, these were not entirely unsuccessful, as some of our extremest sectaries, under Red argumentative ingenuity, re-acted into the Red views, and became in turn their active promoters upon their own home ground. These would, for instance, follow our pious clergy and missionaries into death-bed scenes, in order to exhort them to leave alone some unhappy-minded object of their visit, in his condition of comparative safety, and attend rather to their own awful prospect, confronted as they were by the inevitable Nemesis of their present apparently bright and happy condition.

One of the latest Red-life incidents is reported to us in one of the last members of the *Red Times*, a daily print I regularly take in. A fellow of incurably vicious temper, after murdering his wife, had concluded by taking off also his mother-in-law, in order, as he remarked with cool atrocity, to make one clean sweep of the worry of the whole family concern. Instantly a crowd, with one loud long wail of pity and commiseration, conducted the unhappy wretch to the comfortable Resanitation Retreat, provided for such distressing cases. There a dozen old ladies at once volunteered their services, taking this reprobate by turns night and day, soothing his every feeling, supplying his every want, and never for an unnecessary instant leaving him alone. The cure, we are told, was marvellously rapid. On quitting the Retreat, he was overheard to mutter, and in no mincing way, that all the mothers-in-law in the universe should not see

him there again. That meant, of course, that he would murder no more of them—which was just, in fact, the result the Red principle aimed at. Such triumphs of the system, however, are very grudgingly admitted by our clergy.

CHAPTER XVI.

SCIENCE PROGRESS IN A THOUSAND YEARS RETROSPECT.—
PART III. GRAND CLIMAX OF THE DISCOVERY, BY BLACK,
OF THE REDUPLICATION.

Old White would say "that he should not wonder if our descendants got outside the world altogether, and voyaged far and away upon the Ether ocean."—AUTHOR, chap. i.

I OFFER here, in the first place, just a few preliminary reflections on the scientific retrospect. Although our nineteenth century scientists, especially towards the end of the century, are reputed to have thought themselves very acute, and the progress of their time very rapid and striking, yet, in looking back, and after all due allowances, one is impressed by the dulness of mental grasp about that time, even where there had already been reached many of those elementary facts which have since served us so well as leverage for further steps of science-progress. Take, for instance, the electro-light speed, which, after all, is simply proportionate to speed of ordinary light as compared to speed of sound, both of the latter being facts perfectly well known of old. Then, again, the electro-light speed once determined, we were already halfway

to that other wonderful fact, so important in our exploration of, and speculation upon, far-off space, namely, that this speed is identical with that of the action of gravity. And, once more, the transference of energy, in form of motion, from ordinary matter to ether, and *vice versâ*—a department of science afterwards so fertile of results, ought, as one would now think, to have been caught up much earlier, seeing that, even in the nineteenth century, the two media were perfectly recognizable and distinguishable, and their quality respectively—as, for example, in regard to light and sound transmission—more or less well known. Look at the result of this last step! We speak, as we all of course know, by means of air. The air-energy is exactly transferred to the ether; and thus the voice is carried, at electro-light speed, in any desired direction, to be afterwards, at its destination, retransferred to air, and to enter there the listening ear, even billions of miles away.

This beginning of our hold upon, or rather say, our actual handling of, ether, was followed by other marvellous results, when we could deal optically with that attenuated medium, isolating it from ordinary matter, presenting an ether surface for light-refraction and reflection, and thus, as by an ether microscope, catching a hugely magnified view of ordinary atoms and molecules. We thus knew, not only the shape and aspect of these bodies, but their intervening distances; and thus also, by a compound equation with other known facts, we found the interval between ether points, as well as much other knowledge, including, in particular, that of the reduction of gravity itself, in certain directions at least, to the common

condition of ordinary interchangeable energy. But how simple all those things now appear, after the ways of them are known! and how we wonder at the dulness of our ancestors of the nineteenth century, and even later on, in not discovering them sooner!

BLACK'S GRAND DISCOVERY: WHAT WAS IT?

At length came the crowning discovery, by which our electro-light energy could impart locomotion to bodily substance, as it had previously been able to do only to the ether vibration. This discovery was reserved for my illustrious old friend Black, the renowned ex-chemical professor of our greatest university, who has thus given immortality to his name, and who still survives, in his honoured old age, to witness the marvellous results of his magnificent exploit. When, long ago, the duplication of the cross gave us the reversion-power that brought responsively back to us the missives or messages which we sent into far-off space, it was, even then, shrewdly surmised, that a further step in the cross-electric, completing, in fact, the full bi-cross, must superadd, *inter alia*, locomotive power over corporate substance. Indeed the more speculative minds, even at this early time, advanced still further, even to the idea of the ter-cross, with powers that seemed, for the present at least, and while within only bi-cross purview, to be entirely superhuman. These earlier and sanguine predictors have long passed away, and the full bi-cross attainment has involved perhaps a longer interval than they had, over-sanguinely, anticipated. But when the great discovery we now have to deal

with did at last come, how marvellous its simplicity ! How were we to advance upon the duplication ? Why, simply, as Black showed, by the Reduplication !

Black's intimation of his discovery caused the profoundest astonishment, alike in other worlds as in our own. Wonder was now often expressed that our comparatively small world should have thus pre-eminently distinguished itself. But as to this, many calculations have fairly agreed as to the practical advantage of a happy medium, in combined light, heat, electricity, and gravity, and the advantage of such mean state, for business purposes at all events, over partial or irregular predominations, or over even that general superiority in some main elements, which no doubt helps the purely scientific, and possibly, too, the moral perception and development, while less favourable to the vigorous business element. Rumours were not wanting, too, that the discovery in question was not really new in the universe, but had been long familiar, as was much other such advanced knowledge, to a still higher life than ours in that wide and varied universe. We shall return, further on, to this most interesting question. Meanwhile, let us follow Black in the steps he took after the public intimation of his discovery.

BLACK'S PRACTICAL APPLICATION—FIRST OUTSIDE VOYAGE.

By my worthy father's good business advice, I myself not having yet even entered my teens, Black got matters in readiness, so as to have a good start over all possible rivals, before letting the public of the

universe fully into his secret. For my part, also, I don't see the use of throwing all one's possible good things away. Our friend White was of very great service in giving practical effect to Black's discovery; and in fact this was the opening of White's grand fortunes, and the beginning of all those magnificent "Liners" which his joint stock companies have since established for interplanetary voyaging and traffic.

TO AND FROM THE MOON: PREPARATIONS.

Black boldly announced that, at a day and hour which he named, he would launch off for the moon, with such party as had the courage to accompany him. The passage-money, too, as I recollect, while I clinked some small energy-change in my little pocket, was no trifle. The very first volunteer to present himself was White, then a youth, busily engaged in what was still called "the coasting trade," or the shorter-range aerial voyaging. We have since more appropriately extended the term "coasting trade" to our entire globe, as distinguishing its limited range from that wide trading outside which Black's discovery at once opened to us. None was so helpful as White to his principal, in preparing the little barque which was first to navigate the boundless ether ocean.

All this is but half a century ago. I was then a schoolboy, and I still gratefully recollect the half holiday given to all the neighbouring schools, mine included, to enable us to witness the grand event of the day—Black's departure for the moon. I was able that day to squeeze my then much smaller bulk into

a good position. Before me was a long, narrow, boat-shaped, slightly-made vessel, wholly covered in like a tight cabin, and, as was explained to us, perfectly air-tight. By an ingenious arrangement, the cabin remained air-tight, even with free ingress and egress. This was soon to be put to proof, after quitting our atmosphere; for then there was no longer air pressure outside to balance that within the cabin, so that any chink, however small, would prove fatal to retention of the inside air. Of course, there was ever the possible fracture of the fabric by any passing meteorite or other discourteous fellow-traveller encountered in outside space, in case our earlier precautions as to these encounters proved inadequate. Towards obviating all such possible accidents, each traveller, on this occasion, was separately provided with his own independent air-breathing head-gear. Indeed, it is not, even now, deemed safe to dispense with this contingent safeguard. Inside the cabin, the air was kept pure by the usual carbon-absorbents, which we are so familiar with in ordinary ventilation, and by a store of cross-electro consolidated oxygen.

But the great marvel of the case was the cross-electro apparatus, alike for protection and locomotion. We all gazed curiously at a slight, hardly perceptible, aurora-looking mist or haze that surrounded the vessel; and, at the same time, we could just discern the outline of the long electro-line that had already been thrown out and happily anchored to the moon; thus allowing of the proposed voyage being effected with more general certainty, more celerity, and at much less energy-expenditure, than by the alternative course of simple cross-electric projection from our

basic earth. No doubt we have, since these commencing times, greatly improved in this latter art and science, when we have had to find our way, projectively, to bodies so much further off than the moon—to bodies, in short, whose disks, reduced by distance, were so hard to strike, even with the guidance of the closest astronomic calculation, that the expense of this other kind of “fishing” would at times exceed all its saving benefit.

The cross-electro protective surrounding was, in this first trial, and at much cost with the novel experiment, quadruplicated for full safety against any probable—almost even any possible—meteoric impact. Not altogether without anxiety did the present travelers contemplate the possibility of some rarely huge meteorite plunging unchecked through all the four successive layers of the cross-electric protective, and dashing the whole concern to pieces. The momentum of the smaller bodies, encountered in outside space, is easily and safely dealt with, in being instantaneously converted into, and dispersed as, ordinary electricity by the successive protector batteries which encased the vessel. The great unmanageable masses, although doubtless existing and ever a possible danger, are so exceedingly rare as to cause now but slight alarm, more especially as we can now fairly herald and obviate their approach by throwing out, and maintaining for some distance ahead, a slight and comparatively inexpensive cross-electro outrider, whose disturbed pulsation almost instantaneously reports the intruder and the precise direction and speed of his intrusion.

DEPARTURE AND VOYAGE.

But to return to our subject. The hour of departure now strikes, the travellers having taken their seats in their hermetically closed cabin, and the signal to start having been given. Those of the onlookers who stood near saw Black duly at his post, and grasping with firm hand the electrics which were to regulate the speed. The vessel is first to run upwards a short way upon a sloping pier; and having thus acquired speed, is to be launched off into air, and so pursue her further course. And now every eye watches this testing transition from the *terra firma* of the solid pier to the air and the ether. A simultaneous shout indicates the moment of trial, and the prolonged applause tells its success. In a few more seconds all eyes are already straining to following the small and rapidly diminishing object, as it wings its pioneering way to an outside world.

The first voyage to the moon was, of course, an era in our earth's history; and the telling of the story, which was most deservedly secured, by a protracted patent, to our illustrious Black, made equally an era in its author's fortunes. The subject is, of course, all thoroughly way-beaten by this time, as the Lunar "Bradshaw" of to-day may indicate. Nevertheless, there is still an interest in glancing back at a few particulars of this great pioneering expedition. In spite of all precautionary mental preparation, the appalling blackness of space, on emerging clear of the earth's atmosphere, was something barely endurable to unaccustomed feeling, and from which the passengers gladly sheltered themselves within the

stained and smoked glass department of their narrow quarters. The blazing sun could not be looked at by the unprotected eye, through the clear diamond window-frames of the other part of the cabin. But when the fierce direct solar rays were screened off from the eye, all space was in the funereal darkness alluded to, with the striking variety of countless stars, above, around, and underneath, shining like brilliant points out upon the great jet-black buckler.

The look back upon the earth, after twenty or fifty thousand miles' distance, was indeed grand and interesting in its entire novelty. The best observations of that kind were made, however, on the return voyage, when the passengers' minds had become more used to the situation, and were, therefore, better composed. Meanwhile the keenest excitement arose, as the party approached the moon. Our colour-photography had long ago perfectly realized to us the moon's surface aspects; but still many questions awaited that critical solution, which only personal observation could give. No difficulty was met with in landing. Of course the party took to the area that was sun-lighted for the time; but they were careful to land at first upon the margin of the heated expanse, until, with their as yet unpractised hands, they could adjust themselves, and their protective apparatus, to the sun's scorching rays, untempered by intervening atmosphere, and to the sun-heated lunar ground. Each being duly arrayed in his independent breathing apparatus, and other panoply, the vessel was brought to anchor on the ragged projection of a small crater, and the whole party at once landed, and with eager curiosity commenced observations.

EXPLORATION AND CONDITION OF THE MOON.

Of course we now know a great deal in that way about the moon, to which we are ever excursioning nowadays, much as our ancestors of a thousand years ago were wont to do to Brighton; but on that first visit everything aroused interest and wonder. The great shrinkings and deep and lengthened cracks of the lunar surface enabled the more adventurous of the party to make successful subterranean exploration, and bring up from the depths no small lunar information, geological and even historical. Already, even from this first visit, could science conclude, in confirmation of previous theory, that the moon, millions of years ago, had been fully peopled, having possessed then an atmosphere and seas like our earth; but that air and water having been both nearly all absorbed since, all the higher-structure animals and plants had died off, leaving only a few dwarfed and stunted animal forms, which hybernated with the cold of the long lunar nights, and crept out into the light and warmth of the long day. The lunar world was thus found to be nearly cold as well as nearly dead. At the bottom of the cracks and fissures lay the contracted remnants of the lunar waters, now possessed by only a few surviving small fish, mostly blind. A remnant of thin atmosphere rested upon these waters, and gave breath to certain low-class, slug-like animals, clustering in the fissure sides. During the long lunar day, the heated and expanded air overflows from the fissures in a thin and all but impalpable layer. And thus we had been unable, from the earth's standpoint, to detect previously either air or water.

The moon had balanced her forces and entered upon organized life much sooner than our earth. While the latter was in cloud-boiling condition, such as Jupiter and Saturn still are, the moon was already a peopled world. Her atmosphere had, probably, at first, resembled our own, although much less dense, but it was afterwards changed in composition, and mostly absorbed. By help of the ready-made geological sections supplied by the fissures, we have been able to trace both the advent and the departure of man upon the moon. "The man in the moon" has at last been established as a real personage, at least in the past geological sense. He was of slighter frame than his brothers of the earth, and also less in height, and with a head, to our view, comparatively large to his body. After much subsequent research, we could trace in the various exposed strata, the gradual advance of the lunar animal world, with its highest culmination in man, and whence, by increasingly unfavourable conditions thereafter, it gradually retrograded, and became, as at present, all but extinct.

Some of the larger of the lunar slugs had been picked up on this first visit, with an eye to business, by a brother in the great provision trade, who had been ambitious and courageous enough to accompany the pioneers. These curious creatures lived upon moss-like vegetation in the fissures and cavities below the lunar surface, and upon certain other and smaller animals. From being afterwards prepared in a particular way, suggestive of old North-British curing practice, they got the name of "kippered lunites," and were so greedily taken by the market, that the brother provisioner in question made a rapid fortune.

Many a gourmet amongst us, as he turned from what he, perhaps rather fastidiously, is pleased to call common laboratorial fare, to the naturally grown kippered lunite, exclaimed with a slight alteration of ancient Shakespeare, that "one taste of nature made all stomachs kin."

RETURN TO EARTH.

Our pioneering party spent a week upon the moon, and being mostly men of high scientific attainment, the week was a busy one, the moon traversing one of her quarters meanwhile, and bringing the party into the full glare of the fierce sunshine. All were, however, prepared for every trial; and some of the more youthful of the party, by way of practically showing their complete and easy adaptation, became quite frolicsome, as they exercised their limbs by jumping up to fifty or sixty feet from the ground, in illustration of the comparatively small gravitation upon the lunar surface. But at length they all pack up, re-embark, and start back for home.

That home had been, indeed, during all this interval, a grand object before them—so huge, with all its land and water markings, and snow-white poles, varied by the light but ever-passing clouds, that they could hardly realize the said home to be nearly a quarter of a million of miles away. Returning at a comparatively swift pace, the chief interest now centred in the rapidly enlarging form of the earth. No less than fifteen hours had been precautionarily occupied in the outward voyage—a voyage we to-day easily make in an hour, inclusive of slacks! But the

return was effected at much less sacrifice of valuable time, even including the pull-up, as the vessel began to near our earth, in order to behold at leisure the grand spectacle of the ever revolving world. For a whole hour together the party looked down with profoundest interest upon the swiftly passing scene. Black had timed their arrival so as to give this hour until the landing-place had come round. And now they are once again into downward motion, as they see the place of destination approach, and make ready, with all due precaution, to enter our atmosphere.

By a slanting movement of the vessel, in view of obviating the rapid rush of the air under the axial motion, the atmosphere was entered in perfect safety, and the descent thereafter easily accomplished. Their telescope had already revealed to the travellers a waiting crowd beneath, showing that the time of return had not been unexpected. The time at this landing-place was just, in fact, about ten in the morning, and most people were on their way to business. The landing was safely effected, and upon the very pier from which the party had started but eight days before.

With this first expedition to an outside world, which followed so promptly upon the discovery of the reduplication, I now conclude this chapter. In the next I have to pass on to all the tide of external intercourse into which our great discovery had launched us.

CHAPTER XVII.

INTERPLANETARY PERSONAL INTERCOURSE.

Galloping off to suns and systems far outside our poor little earth.—AUTHOR, chap. i.

AN altogether new era of enterprise now opens upon our world. My old friend White dashes into the new scene with characteristic spirit, and Dame Fortune, in spite of her reputed fickleness, walks steadily by his side. His were the earlier chances. Brown and I, being of a rather younger generation, were not quite ready at the first start, and so the first and richest cream of the great new milk-pail had mostly been skimmed off ere we entered upon the game. But, after all, with the huge enlargement of business that followed, we have, both of us, done pretty fairly, notwithstanding all obstacles.

VENUS AND THE VENUSIANS.

One of the earliest incidents was a challenge from Venus, as to which should be the first to visit personally the other. We accepted, of course, and forthwith strained every effort to secure victory. What a grand opportunity for both Black and White, who were at

once engaged, by our authorities in this matter, for the public account. It speaks volumes for the inter-world courtesies of the time, that we had already so fully communicated all our discovery to Venus—in common, indeed, with the universe generally—as to enable our active neighbour and rival to challenge us, even, so to say, in our own proper wares. But the strain was full upon us for victory, and victory was our due reward. At the same time we were only just ahead. When we launched our ship for this first voyage to Venus, that of our rival was still on the stocks. But it descended thence within a few hours, and each vessel, crowded with its respective passengers, was then advancing towards the other with a speed of travel beyond all precedent. The two planets being then in comparatively near proximity, this first voyage was so much the shorter and less costly.

In spite of a strict look-out, neither party had detected the other, in passing upon the wide ether ocean—a fact which does not say much for the calculations of those primitive ether-navigation times, and compares strikingly with the precision nowadays. The voyage occupied either party about eight days, so that we were already in command of the higher speeds. Speed was already, in fact, mainly a question of courage, in facing, in this as yet unaccustomed way, the risks of the encounter of meteoric bodies—a danger from which, as previously remarked, we are now, by experience and a still more advanced science, better protected. This speed was, of course, vastly greater than that of our first lunar voyage; but, as we shall presently see, we can now do still better than that.

We extended a cordial greeting to our Venusian visitors, and they, on their part, gave to our people an equally loyal welcome. Our party stepped out upon Venus with much the feeling as though it had been their own familiar earth, the air and gravity pressure being nearly the same in both worlds, while the temperature at the place purposely selected for landing—namely, upon an elevated plateau within the planet's arctic latitudes—was found extremely congenial, protected, as it was, by the thick clouds of the Venusian atmosphere, from the blaze of the comparatively huge sun. The party from Venus, on the other hand, as we might have expected, had made for our tropics, where they found themselves fairly comfortable, so far as climate was concerned, although complaining that the reduced size and brilliancy of the sun gave a blank character to our skies.

HISTORY AND FEATURES.

Venus, although rather smaller than our earth, had probably not started any sooner under dynamic equilibrium, seeing she was in the warmer zone of the two. She had, however, with her stronger light-supply, made rather better scientific progress, while we of earth had admittedly taken the business lead. Partly on that account, Venus had altered her natural scenery less than we had done, under the pressure, common to both, of a rapidly increasing population. We, in this operation, had more of an eye to mere business and profit than our sister, who, like other of the fuller-light worlds, was given rather to science pursuit. But then Venus's surface had originally

an extremer variety of hill and dale, much of which still remained over the surface; so that, amongst elevations of twenty miles or upwards, we found we could very fairly acclimatize ourselves. The somewhat different composition of her atmosphere was really our only trouble, causing us a sickish feeling, especially for a time at first; as, in fact, our own atmosphere occasioned in turn to the Venusians. But even that is braved by many on both sides, for the sake of being free of the perpetual bother of the usual protective apparatus, even under all latest improvements. The Venusian man is hardly different from ourselves, excepting some little in the physical composition, and the hue of the flesh and skin—a rather pretty violet tint, due to the higher average temperature, together with the difference of composition in the atmosphere. From Venus let us now pass to the neighbours on the other side of the way celestial, namely—

MARS AND THE MARSIANS.

Although our first steps had been directed, as just related, to Venus, much greater curiosity was aroused by the prospect of our nearly simultaneous visit to Mars. What delayed us chiefly here was the sufficiently near approach of the red planet's opposition, so as to give us a shorter, safer, and less costly voyage. In visiting Venus we had felt comparatively at home, because we had been so long before in communication, mentally, if not yet corporeally, with her people. But, as regarded the Marsians, we were still perfect strangers to such intercourse. We knew

already, indeed, the general aspects of their world, and even of their own personal appearance, because our duplicative photography had long ago given us, by its marvellous perfection, every particular, so far as pertained to the physical Marsian landscape. But beyond all this, and whatever we might infer from the expression of their faces and the works of their hands, we knew nothing of the Marsian people. Nor could we doubt that they, for their part, knew still less about us, and would be inconceivably amazed by our intended visit. We had good reason to infer from all our observation of the photographic transfers of the Marsian surface, that a certain very considerable progress had been made there in art and science. Amongst other signs of progress, we knew that they had telescopes, apparently of a fair power, for we actually saw their astronomers looking through them, and often at our gibbous earth, as we approached the nearest conjunction. We saw also the busy life of their larger towns, and their mode of navigating their seas, which, in the thin cold air of the planet, were usually frozen far down towards the equator. But the thinness and clearness of the air saved Mars from much snow-fall, so that his poles, relatively, were hardly so extensively white as our own, or rather as ours used to be until we had latterly mopped up so much of our old aqueous surface.

PHYSICAL FEATURES.

The story of the first landing on Mars has inexhaustible freshness for all time. Our party, of course, steered for his equatorial region; and cold enough they

found themselves even there, the nights being, to our feeling at least, intensely sharp, although, during the day time, the sun had even an unpleasantly hot blaze.

The good common-sense expression of the Marsian face, as previously familiar to us, had inspired sufficient confidence as to our reception; and, therefore, we descended right into their midst, to their unutterable astonishment. Having soon explained, to the great crowd that quickly surrounded us, by signs and sketches, whence we had come, our party got a warm greeting, and were conducted to the best accommodation afforded by the neighbourhood.

The Marsian atmosphere we found so nearly to resemble our own, that we could breathe it quite comfortably and safely; but it was rather thin to our lungs, resembling our own in fact, as it used to be, at the height of a good many thousand feet from the old level of the ground. Mars has a history, physical and organic, differing in some important respects from ours. Being both smaller, bulk and mass, as well as colder-zoned, his dynamic balancing was attained earlier; but, for the like reasons, his subsequent progress was slower, so that both Venus and ourselves have since quite passed him in the race. And it is for us of his advanced sister Earth now to watch him with even parental eye, as he toils, slowly perhaps, but steadily withal, upwards to that higher life which we have happily already entered.

MARSIAN PROGRESS.

Knowing that Mars was thus our special charge, we have, of course, felt from the very first of our trust

position, the greatest possible interest in his procedure and prospects. Nor can we doubt that our visit, and all the grand new prospect it opens, has proved the dawn of a fresh life to the little planet ; for we everywhere see over his surface what a busy scene of scientific and general progress the last fifty years have been to Mars, as compared with any like period preceding. Railways were just only beginning fifty years ago. So was gas-lighting. There were not yet any telegraph lines, and electric science was quite in its infancy. The vast spectroscopic field had not yet opened to view. How different in all these subjects now ! And happily it is all mainly the Marsians' own attainment, as we, as well as other higher-life visitors from outside, have studiously acted upon the higher-life rule of leaving the lower worlds to make their own way in science, in order that social and moral gradations may naturally accompany the scientific. Prior to Black's discovery, which now enables the higher and lower life worlds to intermix, this due graduation in general human progress was undisturbed and uninterfered with in each case. But now there is danger of unduly precipitating the condition of the latter ; and consequently a higher-life rule had been already enjoined, to the effect that there should be all possible reserve towards the lower worlds upon the great scientific questions involved in our higher life.

But leaving, for the present, science and such like, which are all well enough at their time, let us turn to the main chance. Evidently much solid business was to be done with Mars, when we each knew the other's ways and wants, and could manage to speak to each other. All this required time ; and so all White's

companies, with their mail packets and other great liners, as we have them to-day, did not spring at once into being. We found the Marsians to be good common-sense people, notwithstanding the peculiarity of many of their institutions. They had, indeed, curiously mixed characteristics ; for while they were a progressive people, ever disposed to learn, and to profit by what they learnt, they at the same time cherished and vigorously clung to many odd old customs and prejudices.

THINGS SOCIAL AND POLITICAL.

There were, in that respect, two great opposing political parties in the planet : the one, called the Old Party, whose instincts were mainly with the traditional conditions, and who very grudgingly allowed of the disturbance of change ; the other, called the New Party, whose views and instincts lay entirely the other way, and who welcomed all new and progressive ideas, and very often, to the great scandal of their opponents, treated a good many odd but venerable old institutions of the planet with but scant ceremony. This latter party welcomed us with open arms ; and for that very reason, if for no other, there was always something of a grudging and suspicious feeling towards us from the other side. But unquestionably, as both sides admitted, a grand era had opened to the planet by this personal communication with his great neighbour and brother, the Earth.

Let me offer here still a few more words on Marsian characteristics, preparatory to the personal visit which I and my young friend are now on our way to pay to

the planet. The whole of this small world is under one Government; and the character of that Government, prior to the first arrival of our people, had been in a state of slow transition, to meet the altered circumstances of its advancing society. The government lies in the great Assembly of the Pobb-Likk—a body which was composed of two chief divisions of the population, named respectively the Principles and the Accidents. The Principles were there, as the rule, by right only of personal merit as to ability or public usefulness; the Accidents were there by the chance-medley of the lot, quite irrespective of any personal considerations. Happily for the planet's progress there were many more Principles than Accidents. The Principles, in short, were those who turned the world round, and the Accidents were those who were turned round with it.

But the curious part of the arrangement was that the Accidents took precedence of the Principles. The former occupied the highest seats of the Assembly, whence they, in a leisurely and dominating way, surveyed the energetic and striving crowd of Principles beneath. Many of these latter sought, not unsuccessfully, certain minor honours and precedence amongst themselves, which lifted them a little above the indiscriminate mass of their own body, and a step or two upwards towards the high and special elevation of the Accidents. But the pure Accidents up there rather looked down upon these intermediate upstarts, and, in the past especially, had been extremely jealous and exclusive as regarded the admission of mere Principle to the sacred ranks of Accident. But latterly, the growing needs of the

State, and the help it wanted from the ability, vigour, and general usefulness of the Principles, had more and more forced up the latter towards the Accident ranks. Still there was much Marsian pride in the purity of Accident. The maintenance of the independent self-superiority of Accident over Principle was the foundation stone of Old Party sentiment.

By certain adaptations of the public law, the Accidents, as a body, were insured an adequate provision, without having to depend on any mere personal qualities or exertions; this provision being, in many cases, something of quite enormous magnitude. The head of the great Pobb-Likk, in particular, was always a pure Accident. Any attempt to introduce Principle in that high quarter—any proposition to select personal suitability for the high office in question, would have at once convulsed the planet over its entire circumference.

Such was the political condition of Mars about the time of the first visit from our earth. A great struggle had recently taken place between the two parties, on the question of admitting a much larger, and more equally adjusted, section of the Principles into the Pobb-Likk. This ended in the subsequent measure known as the great “Tea Mrofer,” if I may thus attempt to lay down the difficult Marsian jargon. The New Party had been able just barely to carry this great change, the opposition of the Old Party having been most bitter, vehement, and protracted. And yet already, even at the time of the first visit from our earth, it was held, by common Marsian consent, to have been a proper and wise step, from which retreat was now as undesirable as impossible. And such has

been, in fact, the mingled peculiarity and common-sense quality of these Marsians, in all their great steps of progress since. The Old Party has ever met each successive step by a loud note of opposition and alarm ; but the step once taken, all parties seem to compose and adjust themselves to the new order, and freely to admit that, one thing with another, it suited the planet's actual condition better than what preceded it.

We found ourselves in a general accord with the views and aims of the New Party, and the latter were not slow to use that fact to some purpose in their battle for progress and the new ideas. The Old Party did not deny an abstract superiority to some of the new ideas, which, with vexatious incessancy, were dinned into their unwilling ears ; but they would ever plead that Marsian conditions were suited to Marsian circumstances, and that Marsian peculiarities, even allowing that they were such, ought to be left alone, more especially by outsiders, like us of the earth, who were differently circumstanced.

Amongst odd peculiarities they have happily got rid of in these recent years, none was more striking than the old and prevalent Marsian idea that food should never cross a boundary. They could readily see the advantage of freely sending one place's superabundance to another's scarcity ; but if a boundary happened to intervene, that, as they thought, could no longer be done with advantage. When we advised them simply to shut their eyes to the existence of any boundary-line, as though not present, and so to go on freely exchanging, they shook their heads, or stared alternately at us and the boundary in blank amazement. But a dozen years later a decided

change began to come over Marsian views and counsels in this respect, chiefly at the instance of a leading Marsian statesman of that time, by name Leep-Trebor-Ris, whose somewhat sudden conversion was doubtless attributable to our influence. I recollect meeting this distinguished Marsian, when upon a business trip to the planet, in the interests of my then commencing provision trade. I marked his extreme attention to my argument, and also that, shortly afterwards, he introduced and carried his great measure for allowing food always to pass freely, boundary or no boundary.

But this, to us, simple-looking measure, produced a political convulsion in the planet, which was hardly equalled even by that of the preceding great Tea-Mrofer. The Old Party, to which Leep had belonged, was rent to its very foundation, one section of it emerging, on this special food question, and joining another and larger section from the New Party, under the name of Leepites, a party which lasted for some years. And even now, although all parties have been long agreed as to the propriety and benefit of this great measure, by which the planet's food-distributing policy has ever since been guided, and although its author has been a whole generation dead and gone, yet the strong feeling of the time partially survives, and the extremest sections of the Old Party have hardly yet forgiven the renegade, as they call him, and arch-betrayer of their party's anti-change and anti-progress principles and efforts.

Another old Marsian peculiarity regarded the police protective arrangements. These were in some respects fairly good, but the effect was ever liable to be sadly

marred by the want of a directing head. Consequently, the most curious, troublesome, and absurd ways had crept into practice. For instance, if any one had committed a wrong upon another, the police, instead of making straight for the wrong-doer, arrested first the injured party, and compelled him to secure and punish the other. This was such additional expense and suffering to the victim, that the one would dread and shun the authorities almost as much as the other, and thus the wrong-doer could often make a clean escape. The New Party had been long urgent to end this anomaly. Indeed, both parties had long admitted it as such; and at last, but only the other day, the step in the right direction began to be taken, by appointment of what was called the Rotucesorp-Cilbup, or direct catcher and trier of the wrong-doer.

Amongst peculiarities which still reign, in spite of all efforts of the New Party, the most striking, perhaps, is the very ancient custom and law of giving the whole of a family inheritance to some one member only, instead of dividing equally amongst the whole. On the death of the head of a family, the State Lottery Box, which is called in, determines, by the cast of the dice, which individual of the family is to enjoy the whole property; while all the other members, so far at least as the public law is concerned, may be at once turned out destitute upon the highway. Although this ancient custom seems now at last tottering to its fall, it is still a most tender point with a formidable section of the Old Party, which would fain maintain its existence, in spite of the ever-increasing force of opposing argument and opinion.

The Old Party feel, in fact, that they are thus losing one of the main props of their fundamental political sentiment—the supremacy of Accident over Principle.

OTHER MEMBERS OF OUR SOLAR SYSTEM.

Naturally enough, some little time elapsed ere our excursion enterprise extended beyond Venus on the one hand, and Mars on the other. Not only was the greatly increased distance a heavy expense in both time and money, especially to our earlier inexperience, but the excessive heat in the one direction, and the excessive cold in the other, involved, to our particular frames and feelings, much further costs, as well as our being habilitated in most cumbrous apparatus, with the adaptation and management of which we were not at first by any means so familiar as we are to-day. After a further interval, however, our adventurers of the earth did set foot upon Mercury; and this successful effort was followed by our reaching, in spite of navigation dangers, one of the larger of the countless planetoids circulating between Mars and Jupiter; to be happily followed, after a further time, by our advance outwards, through all that rather intricate planetoidal archipelago, as far as the magnificent system of Jupiter. There we soon picked up acquaintance with the first satellite, Io, rather larger than our moon, with whose fairly intelligent people we have since carried on a regular and profitable trading, only second in importance to that carried on with Mars and Venus. Some interesting features of “the first Jovian,” as we call this his nearest moon, I shall have presently another opportunity to narrate.

We did not experience from Mercury the same vigorous rivalry in the new navigation as had come to us from Venus. The rule bore here, as it is inferred to do in general, that the stronger the solar light, the less does business, and the more does science and other such high consideration, influence the mind and purpose. It was ever, at bottom, business purposes and business prospects that supplied the chief vigour to our progress. Mercury was comparatively deficient in this kind of vigour, and more addicted to purely scientific and other mental progress, carried on independently for its own sake.

Let me only add, in conclusion, that we have, since these earlier efforts, successively reached all the members of our system, even, many times over, to far outside Neptune, and even, some few times, at science's instance, to the smaller planet still outside of Neptune, and outside of all in the system, whose discovery dates only within the last thousand years, and whose remarkable conditions—the gathering up, as it were, of the outer margin of our original nebula, are already so well known to our science. So much for the outer voyaging, while inwards we have penetrated as far as the sun himself, as I shall have to tell further on. The interests of science, even with us Earthians, have at times risen above business considerations, seeing it is difficult to make a voyage to these far extremities, even to Neptune, or indeed even to Uranus, commercially profitable, in the want of human population in either planets or moons, to help us with their labour in the way that we find so advantageous with Mars, the First Jovian, and some others.

CHAPTER XVIII.

OUR FOREIGN TOUR, RESUMED FROM CHAPTER IV.—THE
OUTER CIRCUIT.

The Venus folks had concluded that our cold earth could not possibly be inhabited.—AUTHOR, chap. xix.

HAVING now given to the reader my thousand years' retrospect, I return from its long, but, as I hope, not uninteresting digression, to the business tour in which I was engaged on behalf of my friend, young Brown. I don't mean to assert that I had finished my history when, on the fifth day, by the slackening of speed, and other well-understood indications, I was made aware that we were nearing Mars; for, in fact, I was busy over the work pretty well all the rest of the time of our tour; and a very pleasant occupation for superabundant leisure it proved to be, to say nothing of the prospects of publishing profits. Regarding this last, we earth folks, as I have repeated occasion to mention, have always, at bottom, an eye to business. But now I bundle up my papers, and pass at once into the main cabin to see what is going on.

There I found all the passengers gazing after little Phobos, who had just whisked past us in his rapid

pace of seven hours and a half around Mars. This curious little moon used to be one of the chief dangers of early Marsian navigation; for as we mostly steered for equatorial landing-places, we were thus just in the way of the Phobos orbit, and liable to his suddenly rounding upon us. To-day, indeed, the pilotage hereabouts is all that can be desired for precision and safety; but this was not quite the case for some years at first; and the danger was aggravated to such excursions as were other than of a strictly business character, seeing that, as the party drew near to Mars, they were apt repeatedly to pull up, in order to watch more leisurely both the revolving principal and his two very close little fly-round moons. In this way, on one occasion, a large school party, on holiday, made a narrow escape of being crashed into by Phobos, of course to their utter destruction.

ARRIVAL AT MARS: RECEPTION.

There was, as we quite expected, no small attempt at demonstration at our arrival, with banners flying and drums beating. All this was at the instance, mainly, of the New Party, for our visit had been fully anticipated, as I must now proceed to explain. Our earth having charge of Mars during his upward progress towards the higher life, any notable personage from amongst us, who happens to be going to that planet, is usually endowed with an official and representative character, for the time being, in the Marsian relationship. I being an ex vice-president of the great society which has had Marsian matters more directly in hand, and being also, as I may, perhaps,

assert without vanity, somewhat of a leading person generally in my world, was duly awarded this high position, so soon as it became known that I was about to visit the planet. But this being a relationship altogether externally imposed upon Mars, and without any reference to his own consent, our self-assumed position towards the planet was consequently of a rather delicate kind, and might be made somewhat ruffling to Marsian susceptibilities, were it not for the extreme care and consideration with which we were always wont to act.

A delegation met us at the landing, to invite myself and friend to a grand public dinner, which was then and there fixed for the last day of our proposed stay. Marsians can do nothing of public moment without a public dinner. Having duly accepted, we at once betook ourselves to the business part of our mission, in view of some remainder of our stay being devoted to such duties of my higher and representative mission as might fall in my way.

BUSINESS.

There is already an immense business between the two planets ; for besides the fact that various metals and metalloids, and chemical elements generally, are relatively scarce or otherwise in one or the other planet—a circumstance which makes indeed the chief foundation of the entire interplanetary trade—we had much that was peculiarly Marsian commerce. Not the least section of this commerce comprised a loop-line of White's great interplanetary liners, which diverged to the two little moons, to which the Marsians

ever crowded in thousands, by way of holiday trips, as well as for the magnificent views they thus got of their own comparatively huge revolving world, whose vastly surpassing mass, as thus seen, was already the subject of much arousing Marsian poetry. This again gave rise to large business in the artificial breathing apparatus, as neither of the moons had other than the veriest ghost of a thin atmosphere. All this apparatus business, as well as that of the extensive Marsian phosphate diggings, together with the general interplanetary energy trade, belonged to young Brown's hardware section, and kept him as busy as a bee during our stay upon Mars.

POLITICS.

The New Party were, as I have said, specially jubilant on the occasion of this visit, and were fain, on this particular opportunity, to make political capital out of my presence, as it happened most timely for their coming struggle to get rid of the ancient lottery-box system. They had now, in fact, some good hope of at last completely accomplishing this great result during the approaching session of the great Pobb-Likk. I could not, of course, but side here with the New Party; and they, for their part, were by no means tender in coercing me, whenever they had the chance, to declare for their views on this and other questions. Thus, when challenged on the subject, I must needs assert that Accident was inadmissible to the higher life, where only Principle could live and reign. Statements and admissions of this kind were not at all to the mind of the Old Party, even although

they might concede that abstract perfection was not to be had on Mars any more than elsewhere in these lower worlds, and that in heaven possibly society might be able to dispense with that present firm support which it derived from the system of Accident.

A MARSIAN PUBLIC DINNER.

The dinner, which, as I afterwards learnt, proved in its way an immense success, was attended by a good sprinkling of Accidents; for the New Party is by no means confined to the other class any more than the Old Party is exclusively composed of Accidents. Indeed, this latter party consists of Accident-supporting Principles even much more largely, numerically, than of Accidents. I was interested, not to say amused, at the dinner, to mark the deference paid to the Accidents, quite irrespective of anything personal. One of these, who was placed next to myself, as the seat of highest honour, I found to have hardly an idea in his head, and to be much in my way in conversing with other and better filled heads beyond him. And yet, with these odd Marsians, it would have been quite a breach of usual propriety and courtesy to have put this helpless Accident anywhere else.

This dinner made rather a memorable occasion. There was much mutual compliment flying about on all sides. New Party views were decidedly uppermost. But as some of the speechifying was considered rather extreme for average Marsian opinion, we were warned to prepare for a counterblast. This was to come from the leading journal of the planet, the famous

and ably edited *Semit Eht*, a paper which, as indeed its name indicated, sought to adapt itself always to the times in which it lived. With an Old Party instinct, it was yet, ostensibly, with the New Party, and was ever ready to throw overboard, to the wolves of that party, whatever in social and political progress seemed no longer possible of retention. Thus it was not seldom changing front, in admitting, and even triumphantly arguing for, what it might previously have sternly opposed. The journal was thus at times a source of great irritation to the Old Party, although it might be claiming, all the while, by so wise and prudent a line of policy, to be really their friend. Marvellous, indeed, had been of late the advance of New Party ideas. A popular refrain of the Old Party, which, at the time of our earth's first visit to Mars, might have been enthusiastically chorused at Old Party gatherings, was now sadly in abeyance even there, and, with still worse fate, had assumed only jocular significance with the New Party. The couplet in question might be thus freely translated :—

Dang Principles, Pobb-Likk, and all their circumvents ;
But leave us still our Lott'ry Box and Accidents.

AN ATTACK : A MARSIAN " LEADING ARTICLE. "

From the dinner-table young Brown and I made direct for our interplanetary packet, being bound next for the First Jovian moon. Feeling somewhat tired with all our last day's doings, we both went straight to bed ; and I, for my part, did not re-awake until we were well-nigh a fourth of the way to the outer edges of the asteroids on their Marsian side. We had

heard, just before leaving, that the influential *Semit Eht* was to thunder against us, in its first leader, next morning, by way of rebuke and protest, for our earth's intermeddling with Marsian affairs. As a copy of the paper, with the article in question, reached us at Io by the succeeding mail, I may as well give here some idea of its attack. The Marsian newspapers, I may here also remark, are the oddest and clumsiest things imaginable, being all printed separately from types, and upon such huge expanses of heavy paper, that a mere few hundreds of them would make a fair load for even a strong back. Their circulation is rarely much above a hundred thousand respectively, and over this petty handful of copies they will be pulling away for whole hours of a morning, with a huge and cumbrous iron printing machine. What a contrast, in this respect, between the processes of the two planets! And what, for instance, would these Marsian slow-coaches say to our most recent diaphanous-reflector process, which flashes off a million copies per second!

Well, the article in question begins, somewhat warily, in high compliment to our earth, "that much vaster and brighter world, from whose advanced science Marsians had admittedly so much to learn, and whose illustrious citizens had honoured them by frequent personal intercourse." Then followed a delicate laudation of the reader's humble servant, as "one who was by no means the least of the rival multitudes of the great of his own great world—a conspicuous personage alike publicly and privately, as conducting, with eminently successful ability, an extensive business of his own, of far ancestral inherit-

ance, and comprising, perhaps, the most important section of all commerce." My understood ambassadorial character was then alluded to, and all due respect from Marsians claimed for it.

But, again, on the other hand, as the article went on to say, that great earth is a world of one set of circumstances, and Mars of quite another, each being good in its own way, and each having to work out for itself its own particular problem and destiny. Mars did not presume to impose his ideas of things upon worlds outside, and he had therefore all the better right to hold that outside worlds should not intermeddle with him. Then followed some allusions, in the sarcastic vein, to the "so-called higher life," whose principles and prospects were being thrust, *nolens volens* upon Marsians. That higher life, like a certain other promised outside paradise, said the article, might not unlikely suit Marsians in the life hereafter, or possibly even in this life, if they could all transfer themselves to some differently circumstanced world. But let Marsians be content to go along in their own independent way, repelling and even resenting impertinent and unasked-for outside interference, from whatever quarter. Marsians had no bad world of their own, and their duty was to maintain those ancient institutions under which the planet had grown so powerful and prosperous. They had no need, on the whole, to envy any worlds outside of their own, even although such worlds very possibly felt, or at least affected to feel, superiorities.

Then alluding, in a tone of rising and culminating indignation, to a modern upsetting, traitorous habit, even amongst themselves, of judging their ancient

institutions and ways of things by purely abstract standards, and a vulgar habit of testing every venerable traditional heritage, with all its rich incidence of peculiarity, by the mere practical-merits ideal of to-day, as though a thousand years' life had no merits or rights of its own to set up, the article, in conclusion, went on to say, that the challenge, even on the cold modern basis of "the merits," was fearlessly accepted. Yes, even on the merits, let the battle then be finally fought out. Far too much, nowadays, was it chattered, with all the cheapness of irresponsibility and inexperience, that our Lottery-box might be safely swept away; while a profane levity of spirit would go even so far as to look slightly upon our grand old system of the supremacy of Accident. But the too readily assumed injustice of the public law, in the first of these cases, might be fairly met by the consideration, that the lucky one of the family, to whom the cast of the dice gave all the estate, was probably, with his plethora of means superseding all further need for either mental or bodily exertion, with his enslavement to all the absorbing social demands of his position, and with possibly some twinge of conscience embittering all, not really one jot happier, or one tittle less miserable, than the rest who were made destitute. Then, again, as to their ancient and dignified institution of the Accidents, did it not strikingly resemble the fairy's wand, which called, peaceably, into ready-made existence, all the hill and dale scenery of the Marsian system of rank, instead of the one monotonous dead level of mere Principle, varied only, perhaps, by the alternative of a tempestuous ocean of everlasting rivalry, strife, and unrest, if rank

and honour depended upon mere personal considerations? The radical blast of these days might try its best to strip Marsians of the warmth and security of all this old accustomed clothing; but the stronger it blew, the more tightly and lovingly would they still cling to their venerable Lottery-box, and their sacred hierarchy of Accident.

ARRIVAL AT IO, THE FIRST JOVIAN MOON.

As we had taken the express to Io, the very much longer voyage on which we now embarked was to be made at much greater relative speed than we had experienced to Mars. We were able, also, from the relative positions of Mars and Io at the time, to make a pretty straight course to the latter, which avoided almost entirely the dangerous intermediate archipelago of the ultra-zodiacal planetoids. This and the other Jovian moons, in their somewhat cooler zone of the solar system, and with their own primary's heat still tempered by thick cloud envelopes, have been fortunate in a more prolonged life than our satellite; but they have not, by any means, made the same rapidity of progress that had set in upon our moon for its briefer career. The first and second Jovian moons have both attained indeed the culminating human stage; but only in the first is there as yet a fair degree of civilization, the second being still toiling its way through the usually protracted stage of flint-chipping. The third moon, Ganymede, although considerably the largest of all, and therefore, so far, of promising ultimate future, is as yet only up to the anthropoidal stage, while the fourth, Callisto, is still further astern.

PHYSICAL FEATURES.

Io being not very much larger than our moon, the human form, as developed in both worlds, had been nearly similar, being somewhat slighter than that of the Marsians, while the latter was still short of that firmer bone and figure due to the greater gravity of the earth. Io, as regarded that hemisphere of her body, which is always turned to Jupiter, averaged a temperature but little above our own. Her tropical apex, however, with huge and glowing Jupiter always right overhead, proved, to our feelings, rather a warm berth. We felt more comfortable about three-fourths down latitude, towards the edge of that other and off-hemisphere, which never gets Jupiter's warmth, and which is consequently a cold desolation, occupied by inferior organisms, and by mere scattered trading colonies of the people of the other and more favoured hemisphere. Away down the lunar latitudes just alluded to, and with the shelter of a hill between us and heat-radiating Jupiter, this said latitude had for us quite a pleasant temperature. The sun, at the great distance of the Jovian system, did not seem, to us at least, of much comparative account. He was, indeed, a brilliant little orb, throwing off a good deal of light, but as regarded heat altogether second to the mighty overshadowing planet just at the door.

Those leading First Jovian features, namely, the small size, the moderate light-supply, and the ample and genial heat, were all duly reflected in the particular human attainment. The people were not ambitious, and still less scientific, but quiet and plodding, utilitarian, and business-like throughout.

All progress and discovery was ever at the instance of the practical. They could hardly understand mere science for its own sake. Having discovered some time ago, by a happy accident, the principle of the telescope, they had since applied the instrument chiefly to profitable business and amusement—one leading amusement consisting in the enlarged view of the vast overhead cloud-mass agitations of Jupiter, a spectacle especially attractive to children. When we tendered to them any explanations about astronomical systems, they always asked for some practical outcome, and if nothing promised in that way, their attention and interest soon ceased. But withal we ever found them excellent, simple-minded, direct business people, ever ready to truck and traffic with us. For some time at first our profits from these people were fabulous, as some of our very cheapest wares, such as, for instance, our cross-electric matches, striking, as they did, a brilliant light, which lasted for a few minutes, or even hours, according to power-accumulation and price, were intensely valued by them.

Life proved rather pleasant to us here, and in more respects than those merely of climate, the fact being that we Earthians are greatly looked up to, and held in most flatteringly reverential consideration by these simple Jovians; for, if they care little about our science for its own sake, they yet readily see our power to apply it to all sorts of useful and profitable things, and they are struck with awe and admiration accordingly. Many of our people now live here for weeks and months together, in making business arrangements. There is quite an old home-like

aspect in some of the physical features, there being much of hill and dale on the small scale, with rivers and small lake expanses, all, however, being of fresh water, without the variety of our salt seas. Owing to the comparatively great heat directly under vertical Jupiter, the water there is constantly and rapidly evaporated, passing in clouds away to the cold edges of the hemisphere, and ever returning, by Jupiter's attraction, in cool and gurgling streams, which are the great resource and daily enjoyment of the population. The Jovians are fond of bathing in these pleasant and invigorating waters. Their doctors strongly prescribe this custom, and parents superadd their authority, for the race is thus kept in health and strength, to the great advantage of its business and earning powers.

Speaking of the power of Jupiter's attraction over the waters reminds me of another phase of it, which made Io's apex uncomfortable to us on other grounds than that of mere heat. We felt up there a lightness of foothold, as though there were no *terra firma* beneath us; and even when we retreated towards the cooler edge of the hemisphere, Jupiter kept pulling at us, with the effect of causing us to stand at a very perceptible angle to the perpendicular. From the same cause those Ioans, who had ventured to the opposite apex of their globe, brought word of the mysterious downward strain upon their frame, which made business labour almost impossible. The journey to the opposite apex was to them, in fact, simply an exhausting climb up a huge mountain, the drag and difficulty of which increased with every mile of ascent, as the weary and distressed travellers came into more

and more direct line with Jupiter's and their own lesser world's gravity. Thus this practical people got acquainted with gravity, through its business inconvenience to themselves; and they were interested in our explanations of the law of its action, and more especially of the obviating processes, through our ordinary force-convertibility. But this latter was much too deep a subject, and, above all, much too costly an agent, for the Ioans to think of it.

MANNERS AND CUSTOMS OF THE IOANS.

Their regular bathing habit is connected with one of their most remarkable peculiarities. They all bathe quite publicly, and usually without a particle of clothing to either young or old, male or female. But this is simply because bathing is most pleasant and beneficial in this free way, and in no sense whatever from any want of modesty or true propriety of feeling. On the contrary, the Jovian lady, and especially the young maiden, would shrink, more even than our own females, from advances of the other sex. The Jovian peculiarity is, that no importance whatever is attached to the mere seeing of each other. The most modest of Jovian damsels, so far as a question of modesty is concerned, would not have the slightest objection to be merely seen, whether clothed or naked, and by any number of persons of either sex, provided she is secure against touch or contact. These simple Jovians, on the other hand, are much scandalized by the account of certain of our customs—asking, for instance, how our females can be deemed modest and respectable who freely shake hands with the other

sex, and speak directly to men, while standing so close as even to touch, let alone being enveloped in their breath. They are also highly amused at our scruples about being seen naked. What possible material harm, they say, can come to us of that? Clothing is worn by the Jovians simply according to feeling, and the young and vigorous, especially in Io's warmer latitudes, are usually without it. But exposure to any contact, even to that of the breath of the other sex, is an impropriety, or, as the case may be, a discourtesy or affront to the female. Of course, all respectable females avoid crowded places as much as possible. But even in such places a high courtesy prevails, to which the other sex can usually trust, for every well-bred man scrupulously clears the way for a passing female.

To return to the bathing, the morning bath always begins the day. The morning and day, by the way, are arranged after a fashion of their own by these Jovians, adapted more or less to what we would be apt to call the inconveniently irregular risings and settings, or rather appearances and disappearances, of their small sun. But these to themselves, accustomed to it all, and with nothing else or better to fall back upon, seemed the very perfection of order, variety, and suitability—so much so, indeed, that they were highly amused to hear that we preferred the monotony of our own regularly graduated day and night. The bathing-place of the district we resided in was not far from our lodging, and I used to stroll down of a morning to watch the neat slim young figures, as they skipped freely about in the clear water. If they were not exactly what we should call

handsome, the figure being, to our idea, rather slight for size of head, and the mouth and nostrils rather wide, yet there was withal a real attraction in their simple and pleasing looks and ways. The elderly Jovians, also, turn out to enjoy this daily sight; and in order the better to do so, there is a commodious public pathway, running between the separate bathing-places of the two sexes, where all these seniors, and any others so inclined, may refresh their eyes with the pleasant and lively spectacle. As I gazed down upon it all, I wondered at times what my good wife would have said to such on-goings, and, still more, to her better half quietly enjoying them. But "Do as they do at Rome" is the rule here; and in this field of innocence, let me add, "Evil be to him who evil thinks." Still, I did rather hint to young Brown that it might probably be almost better, if perhaps we could possibly avoid alluding at all to the subject to the old lady, on our return home.

I might translate the name of this attractive public resort as the Esthetic Walk, only that our term is, perhaps, a trifle too transcendental and abstract for the practical Jovians of Io. Much of a practical and business consideration is connected with all this bathing institution. The Jovians attach very great importance, alike to perfect health and perfect form, because, as they justly say, much expense is saved by the former, and much more work done, and business profit made, by the latter. Such forms, therefore, are held in great distinction, and the Jovians have quite a way of their own of distinguishing them. Thus there is, in every district, the common public bath, to which any one may go; but there is, distinctively,

also the Esthetic Bath, reserved for those only of approved health and perfection of form. If any one else wishes to enter this particular bath, he or she must don for the time a slight dress, so that the on-looking public, expecting only the perfection attributable to the place, may not be presented with forms which, as more or less defective, have failed to pass the ordeal. This dress has acquired, amongst the younger maiden aspirants particularly, the name of "the night-gown," to signify its blighting effects to the hopes and ambitions of those who are forced to wear it.

Many a fair young maiden, in the happy days of her courtship, will regularly sport about in the Esthetic Bath, defying the night-gown, and giving the loved one, in the adjacent bath, every opportunity he could wish to satisfy himself as to the perfection of his future wife. The baths are separated only by the slightest of open gratings. Modesty does not admit of speaking to one another, as there might be contact by the breath. Indeed, the highest courtesy, as well as the best manners, is to appear not to be looking directly at your object, however absorbing. Prudent old parents are less pretentious in that fashionable high delicacy; and when an engagement seems likely to take place, the parents on both sides, not altogether trusting the discernment of the parties themselves, through the usual mists of love's spectacles, may be seen repeatedly upon the Esthetic Walk, accompanied by the family doctor, and contriving a much more direct inspection.

The guardians of the Esthetic Bath have at times no small trouble with the Jovian fair sex, in their efforts

to preserve, in full integrity, the bath principle ; and more especially as to that critical period when even the very handsomest of their day must, at last, by the natural attacks of time, be either shrouded in the blighting and abhorred gown, or, as the sad alternative, be entirely expelled from the esthetic scene. Many a fair dame, who differs entirely from her judges on the point in question, and resents what she regards as their erroneous or premature decision, takes alike her consolation and her revenge, by strutting about publicly and gownless, everywhere else, in order to show her own confidence, at least, in her still remaining charms and graces. Our landlady happened to be one of those prematurely blighted ones ; and even now, after a further good dozen of years, she courageously persists in her daily challenge parade. She will occasionally pose before young Brown and me, of a morning in the garden, and without a particle of clothing, that we can detect, except her spectacles. When the odd novelty of the thing had worn off, we would both, on such affecting and trying occasions, bolt off like a shot to the preferable Esthetic Walk.

RETURN HOME *viâ* VESTA AND SOME OTHER PLANETOIDS.

White has established here a line of small packets, which ply from the First Jovian to the three other moons outside, but only towards the times when they are respectively in near "opposition," at which times, of course, their distance is much diminished. It is only in this energy-economizing way, and with an occasional excursion, for wondering Ioan sightseers, in the direction of Jupiter, that the line can be made

to pay. There is no help in passenger traffic, for instance, from even the Second Jovian. Indeed, the flint-chipping savages there are rather an obstacle; and more especially in the colder latitudes of that moon they are at times truculent and dangerous to such a degree as the plodding First Jovians have no fancy to encounter, in their purely business expeditions. We ourselves, also, were in something of the same mind just at this particular time, so that we did not visit any of these outliers, having other and better game in view. Still less had we an idea of pushing on as far as Saturn, even had he lain nearer to us than in his orbit. The range of profitable trading narrows much with this costly distance, while the intense cold involves additional expense; and withal only the first Saturnian moon has reached a human population, and that as yet hardly out of the paleolithics in flints and other barbarism. The grand spectacle of the Saturnian Rings, and all that sort of thing, although well enough for poetry, does not now enter into business purview. We therefore turned our steps homewards, taking, however, the packet to Vesta, with intention to call, besides, at one or two other and lesser planetoids which might happen at the time to lie most conveniently in our way.

This great celestial archipelago, of almost countless worlds, from a few hundred miles' diameter, to a few inches or even still less, used to present a very dangerous navigation for some years at first. Several of the earlier expeditions into it were never more heard of. One in particular was actually seen, from our observatory in Ceres, to be dashed into by a passing world, no bigger than a haystack of our old times, and

thus itself banged into an irregular and extremely elliptical orbit round the sun, which the dead and smashed-up components are supposed to be maintaining ever since. But now, by precautionarily keeping a certain speed, in a certain slanting direction, on entering the thick of the archipelago, these many bodies or little worlds all running, of course, in one and the same direction, the old dangers are minimized almost to nothing.

VESTIAN PEOPLE AND BUSINESS.

Vesta and others of the planetoids possess good phosphate diggings; and as the former has, in common with several others of the larger worlds of this curious system, a human population readily utilizable for business purposes, there are fair opportunities for a stroke of profit in this direction. These Vestians have, to our fancy, an odd appearance, with their very slight, top-heavy looking figures, in accordance with the small gravity of their planet, and with, besides, their wide mouths and noses, to enable them to imbibe a sufficiency of their very thin air. With mouths of their own in much the style of the extreme caricaturing of our old past negro race, these Vestians laugh outright at the bare idea of our little poke-hole of a mouth being regarded as beauty.

My young friend Brown seemed fortunate in the agent he secured here, a decent-looking young Vestian, who, after engagement, accompanied us on a visit to two other little worlds, coursing along near to each other, and both, in fact, within easy telescopic sight of Vesta. As all these worlds, the smaller as well as

the greater, turn respectively upon their axis, and usually in periods of twenty to twenty-four hours, we were interested in noticing this fact, especially in standing upon one of the smaller orbs. On the way back to Vesta we descried and gave chase to one very little fellow, of not more than a foot through, and having caught him and transferred him to our decks, we found him to be a light vesicular-looking stuff, chiefly composed of certain sulphates and phosphates, and not altogether unworthy the cost and trouble of capture and freight.

And so, having completed all our business here, we started again straight for home; and after threading the planetoid archipelago with the usual precautions and success, we were able to make a direct and rapid course to earth, which we safely reached, after an absence, in all, of rather less than five weeks.

CHAPTER XIX.

OUR FOREIGN TOUR—THE INNER CIRCUIT.

Man ; his physical components everywhere diversified, his mental everywhere alike.—AUTHOR, *passim*.

PREPARATIONS.

THE very first news that greeted our landing was of the fall of Bullings. Poor Bullings ! The merciless Bears had tripped him up at last. He fell, and great indeed, for the passing moment, was the fall. But as usual, no doubt, as I reflected to myself, small now is the man, if not indeed entirely forgotten, since he has fallen. And with this moralizing, Bullings had soon well-nigh entirely slipped out of my own mind and memory also, seeing that, fortunately, as compared with many others, I had at the time no account, speculative or otherwise, outstanding with him.

For some little time I was now up to the eyes with work, bringing up arrears, and getting ready for an inner voyage, along with my promised companion, old Brown. I had to keep the latter well up to the scratch, as I half suspected him of regretting his promise, and of thinking that there might be more

cry than wool in this rather adventurous solar voyage. By way of reassuring him, however, I mentioned my solid expectations of profit from the work I had just been engaged with ; and how much more, then, from that of a trip to the sun !

AN OLD FRIEND TURNS UP ONCE MORE.

I was tramp-tramping, along with the passing crowd one day, in deep musings over business things in general, and my own immediate profits and prospects in particular, when a voice fell of a sudden upon my ears, whose remembered notes, arousing a kind of instinctive awe, caused me in a moment to pull up, and to find that I had slid out of the marching rank. I was in a small business recess, and confronting me was no other than the lately redoubtable Bullings. My annoyance with my stupid self was excessive, and was anything but dissipated when the old fellow rushed upon me, with a warm handshaking, to acknowledge, as he vexatiously put it, my most kindly and considerate feeling, in thus, at his salute, purposely stopping to see him. He had been in the very act of drawing up some hams from their laboratorial cellarage, and he now pointed to these with a knowing wink, as though to say that we were brothers in trade now. But I fear I made no genial response, as I glanced at the raw new sawdusty-looking cheap ham rubbish lying before me. But he seemed in no mood to be discouraged, and, with the very best of spirits, entered warmly into all his new plans and prospects. He had already, as he told me, launched a grand restaurant system, for the supply of

business luncheons over the world—the prompt, the ready, the ubiquitous, for business needs. He had called the concern “The Great Consolidated Restaurant;” and it was to disperse or swallow up all other and rival concerns of the same kind, and eventually girdle the earth with countless and continuous lines of luncheon bars, accessibly at hand to even the most hurried business man, he himself, as general manager, being seated in the central pivot, with cross-electrical connection, to supply and control instantaneously every individual bar and station. I was just in time, he added, with friendly eagerness, to secure a large share allotment, which a cash-down payment on my part would make free to me of the immediately expected high premium.

I turned impatiently away from the incurable old schemer, and, bidding him a rather curt adieu, had, in the next second, regained a place in the passing rank, and had soon tramped myself safe beyond sight and hearing of my enemy. But my last glance at poor Bullings’ crestfallen and woebegone face, as I turned upon him thus, clung to my memory and conscience. Poor old fellow! Thrown off, perhaps, by every one else, I might have seemed to him, for just the fleeting moment, the one sole remaining friend to help him up again from the very dust. And after all, thought I, the too forgetful world owes something to Bullings, whose great schemes still stand and flourish, although he himself has tumbled down. I will confess it, that, on reaching my house, my very first act was to write out a cheque for Bullings, for the deposit upon the proposed allotment of shares. The cheque too might prove the more gratifying to

him, as being drawn upon his own creation, "The Whole Compass Finance," a fairly prosperous concern, in which I had opened an account. So you see, good reader, that the family motto of "Business first" has, for once at any rate, been transgressed.

OUR FURTHER PROGRAMME OF TRAVEL.

This particular inner circuit trip was to be a great and special occasion, White himself, in view of the still reputedly dangerous solar navigation, having consented to take the helm. How far my own personal influence on the occasion secured this important result, I will not, in all modesty, decide. Anyway, it secured us an unusually large company, while also greatly reducing the force of old Brown's objections, although he still emitted a growl over the sacrifice of business time, and the possibly inadequate results in publication profits or any other proceeds. By our present programme, we first touched at Venus, passing thence direct to Vulcan, as Mercury's position would be more in line about the time of our return. From Vulcan, Brown senior and I were to go on to the sun. Young Brown, having business with only the three planets, would, by arrangement, take a loop-line packet homewards from Vulcan to Mercury, where he was to await our return from our solar trip, and from whence the reunited party would make a straight course for the earth.

ARRIVAL AT VENUS.

Venus, worthy of her name, is a beautiful planet, and already a favourite resort of our Eartheans. As

we approached the bright cloud-encompassed orb, we lovingly watched her for a few seconds, as she came towards us, trudging along in her orbit. Up at last she duly rolls, and we easily effect our landing at one of the high latitude stations, where the climate is found so suitable to us. We always jump ashore upon Venus with the easy and confident familiarity of feeling entirely at home. This is especially the case amongst these arctic latitudes; for the chief feature of difference in the two planets, namely, the comparatively huge sun in the Venus sky, is appreciably toned down, alike in heat and light, by the cloud and cold, and the lofty mountain heights of those localities. The fair planet, with her dense cloud system, has, in fact, a remarkably equable climate, night and day temperatures differing much less than ours. Indeed, our earth seemed to the Venusians so extremely different, in those and other respects, from their own, that before their science had detected unmistakable signs of population, their conclusions had been all on the negative side, and consequently there were many pulpit and other homilies about great, but lifeless, worlds around them.

The inconvenience of the partially different atmospheric composition in Venus is being gradually rectified by successive contrivances, one of the latest of which, a most simple arrangement, I had now brought with me, and found to answer its purpose admirably. A small chlorine generator is fixed under the mouth, in connection with the respiratory movements, and, at every breathing inhalation, emits a tiny stream of the chlorine gas, which catches up the

noxious metallic gas, Venerium, out of the Venus atmosphere, ere it enters our lungs. A small admixture of this, to us, new gaseous metal, which Venus has added to our chemistry, is the chief cause of the disagreement of Venus's atmosphere with our Earthean constitution.

The large business that goes on daily with Venus is now terribly cut up with competition. Still, with the large scale of modern operation, and the prompt and cheap deliveries through the salutary opposition of the fast expresses, the thing can be made to pay. Brown and I, ever on the alert for a business turn, strolled through the Venus markets, picking up some promising wares; for, in view of any such chances, we had both provided ourselves with adequate energy-credits. Brown junior, too, reported to us very satisfactory arrangements in his hardware and energy trade. But, not to waste more time over this now so familiar scene, let us pass to what will afford us much greater diversity of feature and incident, namely, our—

ARRIVAL AT VULCAN.

I may here mention, as good illustration of interplanetary travel, that all of our large and varied company, excepting perhaps a few young children, had previously travelled as far as Venus—many indeed had been there many times over. A large proportion had been also as far as Mercury. A good many had been still further on to Vulcan. But few indeed, excepting old White himself and his select crew, had been to the Sun. Indeed the risks of this voyage, to say nothing of the awful physical aspects

of the near approach, made it still a novelty to the great mass of even our more curious sightseers. None of us three had been there, although both old Brown and myself had been previously as far as Vulcan on business, and our junior as far as Mercury. The natural consequence of such comparative few making the sun passage was a very high passage-money; and just here we had old Brown's most formidable objection, seeing that, from Vulcan to the sun, the comparatively few millions of miles cost quite the double of the far greater distance from Earth to Vulcan. One must not, however, forget the enormous expenditure required in cross-electric protective energy for this shorter voyage; for White, who had so often successfully made it, had guaranteed the most assuring arrangements in that way.

We bade cordial adieus to the bright and intelligent Venusians. Our hand-shaking has come quite into vogue with them, although they still laugh at the odd-looking custom all the same as at first. Passing Mercury's orbit, we descried the little planet in the near offing, toiling along in our direction. And now, as we approach little Vulcan, the dimensions and fierce power of the sun are something to notice, and to afford us some warning of what a still nearer approach, even beyond Vulcan himself, may look and feel like. With every million or two of miles' approach, the careful old White added a charge extra to our anti-light and anti-heat cross-electric protector surroundings, thus keeping us always in safety and comfort.

VULCANIAN FEATURES AND PECULIARITIES.

The usual custom is to land on Vulcan by night. Loss of business time is an objection to this practice, but the greatly reduced night temperature is a material saving of money or energy on the other side. The comparative cold, especially close on to sunrise, is so great, that we Eartheans could almost stand the night climate here unprotected; while a thousand feet aloft, in the thin Vulcanian atmosphere, we feel at night, so far as temperature is concerned, almost quite comfortable. Thus any shipping from the earth or other outside planet, laid up for any short season in Vulcan, find it most convenient, and much the most saving, to get into counter-axial motion, and so remain continuously within the protecting shade of Vulcanian night.

We calculated to arrive at our Vulcan station just one hour before daybreak, so as to give us time to mount our complete protective panoplies, get our breakfast, and be ready for business. Some of our company were out betimes to see the grand sunrise. The slight forewarning dawn which the thin air affords, hardly at all heralds the sudden flash of the grand solar limb that rises upon the horizon. Almost in one instant we were immersed in a blaze of light and heat. The Vulcanians all around amused us just then by rubbing their hands to take off the chill of the morning, and welcome the coming heat of day. We, on our part, in order to secure coolness, stood well within our strongly fortified cross-electro protectors.

How completely different everything is and looks

here as compared to our earth, or rather as compared with the earth, Venus, Mars, and various smaller worlds, whose climatic circumstances permit of the presence and important functions of water! Mercury, indeed, supplies a step of decided departure towards Vulcan; but having this time given Mercury the slip, we plunged at once into Vulcanian peculiarities. The whole of the little planet looks like a lump of metal, and the leaden hue throughout has at first a non-natural and depressing effect. But this soon wears off as we get accustomed to the people, their gentle and pleasant ways, and their remarkably intelligent faces, in spite of their somewhat planetoid contour of figure. Certain metals enter largely into the organic physique, and give a curious aspect alike to animal and plant substance. The atmosphere is partly composed of metallic vapours, and there are small lakes or seas which supply those vapours, especially during the heat of the day, and between which and the atmosphere there is constant interchange.

THE VULCANIAN PEOPLE.

Nothing is more amusing to us, or indeed more utterly astonishing, than to see the Vulcanians washing and bathing in these very odd "waters." They cannot do this until the day is well on, for all their seas are regularly frozen every night, the ice, as we might call it, beginning on the surface even ere the scorching mighty sun has quite touched the horizon, and not being completely thawed until a good hour or two of morning. Hence the dangers

which attend incautious bathing. Repeatedly young children, taking, perhaps, a refreshing dip towards the evening of a hot day, have been caught by the ice, and been got out with difficulty. In one case lately, in some shallow water, a boy was so caught by the feet, and both limbs considerably injured, as well as frostbitten, ere he could be released.

The Vulcanians are not much given to business. There are no speculations and crises here. The people are much attached to all scientific pursuits, but withal there is not much reasoning power in their heads. They are remarkably harmless, and one can't help liking them. Of course you and they can't come into contact, friendly or otherwise—no handshaking here. While their temperature would roast us, contact with us is not less terrible to them; for a finger, thrust through our panoply, and touching even our dress, would be skinned by the excessive cold, much as our own tongues would be served in touching bodies in extreme cold at our own poles. We and the Vulcanians stand therefore in great mutual awe and respect. We had a hearty joke with young Brown about a pleasant young daughter of the agent he had come to terms with here. What a warm embrace might be in prospect in certain contingencies! and how such a fair partner might stir up the fire of love in more than one sense of the words!

ARRIVAL AT THE SUN: DANGERS OF THE VOYAGE.

With a considerably reduced company, we now resumed our voyage to the sun; and now every

one was on the alert for the grand and the terrible, and all the novelties in store for us. I marked White's coolness. He put us up to speed almost at once, pulling the second and third electrics consecutively, ere we were a good fifty and a hundred thousand miles, respectively, outside of Vulcan. So on we flew, expecting to enter the coronal outskirts within five hours. And so we did. Of course our shades were all up, and we could thus gaze harmlessly upon the growing magnificence of the sun's contour, until at length its vast expanse was too great for grasp of eye. Just then a peculiar agitation around us, and a slightly pinkish hue in our rear, told that we had already passed the coronal outskirts, and entered within the hydrogen flames of the solar atmosphere.

There is no difficulty, and no danger whatever, nowadays, in steering through these flames, terrible as they look at a distance, seeing they are perfectly amenable to the powers of our cross-electro protectors. The chief danger to us, in the solar approaches, arises from, on the one hand, the frequent ejection of hot solid or liquid materials, and, on the other, the circulating meteoric bodies, which are ever falling into the sun's photosphere. As regards this latter danger, we have to adopt our accommodating slanting method of motion, as with the many little planetoids, although with not always the same success, seeing that these solar meteorites, although mostly, are not always running in the same direction. In the other case, again, the momentum of some large masses might possibly exceed the force-

convertibility of our protectors. The chief safety from this danger consists in our getting our vessel into the tide of a "downrush," passing through one of the "spot" openings, and thus being wafted, swiftly and almost free alike of danger and of energy-cost, into the sub-photospheric solar atmosphere, where every cause of alarm is at once ended.

All this was what White had admirably planned. Presently we found ourselves sailing, rapidly but quietly, through what, although comparatively a small "spot," was none the less a vast expanding gulf of some ten thousand miles across. The "spotty" seasons are thus the readiest for solar ingress; but the bold and experienced navigator can always find and make good his entrance somewhere over the ever-disturbed equatorial and sub-equatorial region,—the lesser openings, in fact, of a mile or even less breadth, being often safer than the greater, owing to their comparative freedom from the dreaded dangers of the storm-raised faculæ.

And now, passing through penumbral walls or precipices, we enter within the mighty sun. As soon as we had sunk beneath the level of the dazzling photosphere, our eyes could open upon the genial scene that expanded in all its vastness before and beneath us. The light clear hydrogen atmosphere stretched for many thousands of miles below, resting its lower strata upon the diversified surface of the sun's solid body. White had to slacken speed, of course, when he approached the corona and the hydrogen atmosphere outside, and now, as we descended, and had still more to slacken speed with the

growing atmospheric density, we had some leisure to survey and admire the broad and varied landscape spread out beneath. But now, after our brief survey, all is bustle and curiosity in another direction, as we are rapidly approaching the solar landing-place.

CHAPTER XX.

THE SUN, AND THE SOLAR POPULATIONS. A YET
“HIGHER LIFE” THERE.

Curiously enough, in the nineteenth century, the sun was deemed uninhabitable.—AUTHOR, chap. xx., etc.

HITHERTO I have refrained from much allusion to the great central world into which we have now entered, until I could offer some connected remarks in this chapter, and just before we enter personally upon the solar scenes. A thousand years ago it was the general scientific view that the sun could not possess life. Prior to that time the sun had been held by some to be peopled, but upon purely imaginative grounds, for the chief conditioning data were then unknown. The standing problem of the bright photosphere had not then been solved. The photosphere, as we now know, is the cross-electric outward emanation from the magneto-cross-electric current, which ever sweeps the solar surface, keeping that surface comparatively cool, and composing it, more or less, to dynamic equilibrium. The solar photosphere, in short, is, as it were, our own familiar “Aurora glory,” intensified by cross-electric action upon a gigantic scale, and over-

spreading, in the upper atmosphere, the entire solar circumference.

All central suns, after throwing off their planetary surroundings, continue long in cross-electrically disturbed condition, even long after they have become so far dynamically balanced as to develop organic life. When all this electrical disturbance at length completely subsides, as we see in Sirius, and many other of the like more advanced suns, the conditions are all at the highest for human development. A long lingering disturbance may still remain in the equatorial regions, even after the rest of the sun has attained the serenity alluded to. This is the case of our sun, in common with a good many others, and the consequence is, that there are two distinct solar peoples within our luminary, the one occupying a great belt of the still more or less disturbed equatorial centre, the other possessing the climatically serene and perfected sections, where they form an upper class of extremely higher human attainments, and keep quite aloof from the lower solars, much as we ourselves would do from a herd of monkeys or other inferior beings.

Of course our intercourse and trading were not with these high and mighty folks. Nevertheless it was one of our main objects to pay them a visit. Indeed Brown and I reckoned that this visit would form about the most novel and attractive chapter of our forthcoming volume, so little are these most remarkable people yet known to us. All our intercourse as yet had been with the lower or equatorial solars, whom we found a plain common-sense people, advanced on an average to our own whereabouts, much as we

should have expected and calculated from their main physical conditions of enormous gravity, and very considerable, but irregular and intermittently disturbed sub-photospheric light and heat.

White was already quite at home with these Lower Solars, and had many a warm welcome in their genial expressions. His agent, whom White had duly signalized on his approach, was waiting at the landing, and was apparently a plain straightforward man of business. But what an odd figure ! And what a change, from the slender forms of Vulcan, was the short squat mortal before us, his big broad head upon an almost imperceptibly short neck, half-buried between his shoulders, and his body as broad as it was long. His deep sepulchral voice, as he spoke to us—and, let me add, quite fluently in good English, which he had mastered for our benefit, as well as the Telegraph tongue—was yet another striking feature of the case.

We all turned out of ship, and with much curiosity wandered about in the solar scenes. The aspect of the heavens above was even more striking than the scene upon the ground below ; and we were never tired of watching the sublime grandeur of the electric storms, now lowering and darkening and again breaking up, with frequent glimpses of the reverse, or lower surface, of the beautiful photosphere, with its comparatively subdued lustre, now serene, for fleeting minutes, like an upper solar sky, and again promptly disturbed by the varying electrical streams, and the violent breaches of the upward and the downward atmospheric rushes.

We had not been long ashore ere a most comic

incident occurred. A waggish youth of our company who had joined us from the first on a business holiday, and who had kept us all alive with his fun and frolic, observing Brown at one of the market stalls deep into a bargain about a lump of helium, adroitly undid the waste tube, which was firing out the converted surplus gravity, from its usual and comparatively dignified fastening behind the neck, and brought it down so as to emerge from beneath the old gentleman's coat tails, giving him all the appearance of possessing a fiery appendage in that fundamental quarter. We all broke at once into a burst of laughter, while the broad grin visible upon some solar faces near us must, as we guessed, be accepted in the same sense, however difficult to be so realized. Brown was excessively angry at first, and more than suspected me, until we had indicated the hopeless delinquent. But his helium bargain, which he presently concluded, soon restored his composure.

UPPER AND LOWER SOLARDOM.

Our Lower Solar friends were a fairly busy and progressive people, who occupy all that vast equatorial region of the sun which we have of old assigned to spot liability. It is of course hundreds of thousands of miles in breadth, with a circumference of between two and three millions; and all over this vast area was spread an almost countless multitude of busy humanity. Brown and I secured our seats for Borderland, as the terminal territory is called, and which, in a straight line, was about a quarter of a million of miles from where we had landed. By

ascending high up in the thin hydrogen atmosphere, travelling here was at much greater speed than we were used to in our own heavier atmospheric medium. Although we were a good twenty-four of our hours on this voyage, we were never tired of the vast and varied landscape beneath, and we had besides a comfortable sleep by the way.

The grandest spectacle of all is the approach to Upper Solardom, which was heralded to us from afar by the gradual diminution of electrical disturbance overhead, and the bright and steady serenity of the remote horizon. This Borderland has, from one cause and another, come to be thickly occupied by the Lower Solars. One cause of attraction is the accommodation required for the curious who travel into Upper Solardom; and who are apt to linger, both going and returning, in the comparatively bright scenes of all the circuit of this Border territory. But as neither Upper Solars, nor their Upper Solardom, have much attraction for the Lower—there being, as we shall presently show, no great love lost between them, and no great coveting on the one part for the other's condition—the crowd and business of Borderland was due chiefly to quite another cause.

All this Borderland, then, was a sort of sanitarium, physical and mental, for the Lower Solars; and a delightful, as well as healthful, change it ever proved. The consequence was that great numbers had, for many generations back, made this attractive territory their permanent home. There was a curious consequence to those whose families had thus lived longest on the border, and especially along its nearest Upper Solar edges, namely that they began to

develop the characteristics of Upper Solar superiority. So soon as these signs unquestionably appeared, Upper Solardom was thrown open to their common citizenship; and it was often curious to mark the hesitation at first of these new-fledged great ones, at quitting the warmth of their old accustomed Lower Solar associations, intellectually inferior as they might be, to enter the cold, methodical, unvarying, most ungenial, and almost austere-looking life of the higher race. But it is now time to describe more particularly those remarkable Upper Solars, at whose walls, or rather at whose protective cross-electric panoply, we have just arrived.

THE UPPER SOLAR PEOPLE.

The grand distinction of the Upper Solars is the additional sense given to the mind, in its communication with the outside world. This is the causation or reasoning sense, and it is indicated by a special set of nerves proceeding direct outwards from the middle of the frontal brain—the skull in that part having two small openings, by way of intellectual eyes, situated an inch or two above the ordinary eyes, and through which the said nerves pass, terminating in a peculiar outer ganglion, serving to meet, directly, external impressions. One feels quite lost in arguing upon this additional human quality or power; for prior to our knowledge of Upper Solar fact, we should have regarded such power as altogether superhuman and restricted to Deity. But there could be no doubt that it was a human acquirement, the result of long residence under the highest physical auspices—no

doubt, I repeat, for we see daily in Borderland the proof in many thousands who are simultaneously graduating before our eyes into that higher power and higher life. In these cases the well-known red marks first come out upon the forehead. From that first stage it is only a question of time in successive generations. That time, science, and medicine can more or less expedite or protract; and sometimes it is the fancy to do the last rather than the first, for, as I have said, Upper Solar life is no attractive spectacle to the Lower Solar minds. Of course, once lifted clean out of the lower into that higher realm of thought, the attractions of the latter will be duly realized.

This additional sense gives the faculty of knowing either ourselves or each other so completely, that, if all affecting circumstances can be known or given or calculated, our conduct—that is to say, all our thought and action—could be predicted under any or all of those circumstances for all time coming. The upper life cases are in this respect much simpler and easier dealt with than ours of the lower life, as we are ever apt to be irregular and “tricky,” and to conceal or confuse thought and intention by non-conformable outward expression. There is no double dealing of this kind in the grave straightforward Upper Solar life. But our complex case is not beyond the range of the sixth sense; it requires only an additional calculus line. An Upper Solar can usually be resolved upon one line, as both himself and his physical surroundings are so regular and so ascertainable. But the Lower Solars, and ordinary humanity in general, require two and often the ex-

tremely intricate problem of three separate calculus lines.

Upper is separated from Lower Solardom by a lofty wall, or cross-electric panoply, ascending perpendicularly right up to the reversal of the photosphere. This thin diaphanous aurora-looking process hardly prevents our view more than would the clearest glass, but it is an impenetrable barrier to the Lower Solars, almost as much as the solar photosphere itself. Consequently we visitors have to pass through one of the appointed gates, where an Upper Solar guard receives the intending traveller and subjects him to the calculus. This is usually a brief process, and completed in the unaided mind of the guardian; although, at times, he will not be so easily satisfied, and will take to his pencil, especially if he detects the necessity for more than one or two calculus lines. This happened just the day before our visit, with an Unmitigated Calvinist Missionary, who had come to make conversions, and who had at first aroused disturbing suspicions. But when it was found, by means of a carefully traced third calculus line, that a terrible category of ideas, lying behind the missionary's apparently placid outer expression, referred solely to the next life, the man himself being a plain well-meaning common-sense mortal as ever stepped, he was at once passed through. The sole object of the guardianship is to make sure that visitors have no mischievous or other bad or trouble-giving intentions. That being ascertained, they are perfectly free to go in and out at pleasure.

The grand dividing wall we were now approaching has a gradual self-adjusting forward movement,

towards the solar equator, ever enclosing additional territory, where electrical disturbance above has sufficiently ceased for that purpose. This is a slow but a steady process. The steps are hardly appreciable under intervals of ten thousand solar-axial revolutions of twenty-five of our days each. Eventually the two great walls, approaching respectively from north and south, will meet at the solar equator, thus constituting the whole solar surface into Upper Solar territory, and making of our sun a world of entirely Upper Solar life.

The Upper Solars, it is inferred by us lower mortals, are able to calculate, quite accurately, alike the beginning and the duration of this result. Then comes a long reign of Upper Solar life, and an advance into knowledge far beyond ordinary human attainment. But the end comes at last in this as in all else. Indeed it has been foreseen from the beginning. The fires of all solar energy must at length burn out. There have been many instances in the past, and there will be many more in the future. But all this complex question of science, including that other of the contingency of the re-entrance of those burnt-out systems into light and heat, and a fresh career of life, by the collisions and other fortunes incidental to constant locomotion and gravity action—a problem in whose solution, by the way, we have of late made much progress—all this, I say, however interesting, must not further distract us at present. Suffice it to add, that the prospect, whether from afar, or as being close at hand, is always viewed alike philosophically by the Upper Solar minds. Their advanced science might long protract, by

artificial conditions, the Upper Solar existence in any threatened case. But, as they calmly argue, why enter upon any such forced and inferior conditions! There is ever, accordingly, perfect resignation to the final extinction of the race in each successive case. And again, it would be within the power of their science to effect a timely escape to other suns, more or less perfectly suited to them, and having yet millions of generations of life before them, which are in full communion with them, and where they would be loyally welcomed. But each solar world accepts its own destiny and fate, and this escape-resource has never been adopted. They reflect that the comparative handful of their particular section of the race will not be missed in the many millions of the peopled suns of Upper Solar life attainment; and that there is a still more satisfying eternity for all of them in that spiritual life of the future, which is the common heritage of man.

OUR PERSONAL EXPERIENCE OF THEM.

And now it was for Brown and me to wonder how we, the Peri of a lower world, were to be dealt with at the gate of this paradise, to which we were approaching. I must say that, even in spite of sundry comic sensations, I felt penetrated by a profound respect and awe, as the bright, keen, all-speaking pair of eyes concentrated upon me, the short squat figure having first raised itself to my level by mounting a chair. There was further a mysterious uncomfortable glitter about those small upper eyes in the forehead, whose jet-black extremities were

evidently in co-action and co-agitation with the lower. To my agreeable surprise, however, I was passed through almost at once. But turning back to Brown, and seeing some little haggling going on, and old B. for once, as I thought, a trifle uncomfortable, I could not resist calling out that that sad Calvinism of his was at the bottom of it all.

The next moment, however, the old fellow tripped up to my side, quite proud of his comparative consequence. "Well, Green," he said emphatically, "I never! They do say, hereabout, that the empty heads get easiest through. Who would have thought that as between you and me! You must have so crammed my head all these years, that at last it is fuller than your own." I was rather put out by this unseasonable, or at least unexpected sally of old Brown's. But then who could think, just at that exciting moment, of anything else than Upper Solardom?

What struck us most, when at last really inside, was the uniformity of everything around. There seemed a great throng of people and a multitude of dwellings, although nowhere such as to cause any inconvenience. But the houses were all alike, and the people all seemed to have the same expression, and to be doing the same things—in short to live, move, and think in the same way. It seemed as though, having ascertained the best plan of a dwelling, for instance, they all took exactly to that pattern, and that, having determined the best rule as to habits of life and thought, they all followed that rule. There is one curious physical difference between them and us, in the absence of a stomach and bowel system like ours. As they imbibe, in their advanced

chemical ways, only the exact kind and quantity of the nutriment needed for the system, there is neither excrement nor excrementary passage; and of course there is never either the worry or the savour of a sewage question in Upper Solardom.

These Upper Solars are supposed to have complete knowledge of all physical science, but, on principle, to withhold such advanced knowledge from the Lower Solars, in order that, by gradual self-progress, the social and moral advance may accompany the scientific. With their advanced science, they might travel from system to system as easily and quickly, perhaps, as we now master mere interplanetary distances; but, as matter of fact, they never do so, simply because there seems to them no need for such time and labour-wasting effort, seeing their communications by mind are already perfect and constant with all Upper Solar life throughout the universe, or, more strictly, throughout that section of it in which they live. Having attained to all physical science, their chief study is the science of mind; and the chief occupation there is the sublime study of Deity, in its relation to eternity past and future, to infinity, and to the visible universe. In this high question our own more limited capacity can but catch up one or other of the outside extremities of the true idea—namely, on the one hand, a personal God, necessarily local and limited; and, on the other, a pantheistic expanse, as necessarily nothing at all. In endeavouring, with their higher capacity, to grasp the true mean of the Divine relationship, these Upper Solars have before them a grand question, in which the race is ever making a satisfying because

an appreciable progress, but with this result, at once inspiring and despairing, that every step of ascent opens to view a still larger field of what remains unknown.

After strolling about for a while, no one around us taking any notice, any more than if we were a couple of harmless stray sheep, we resolved to accost one of these self-absorbed beings, in order to pump some information out of him. We relied on the probability of his being master of the universal telegraph language of our own, so-called "Higher Life." "Yes, you do it, Green," interposed Brown eagerly; and I doubt not he was at the moment thinking of the promising variety of material thus in store for our forthcoming volume. I doubt not, also, that I could, just then, have signally reversed, upon his own pate, that late allocution of his about other people's empty heads, had I chosen to go back upon it. But with all our present high surroundings I rose above that small sort of thing.

Watching our opportunity, we planted ourselves right in front of one advancing form, for there seemed no other way of distracting the attention of these people, in their devoted self-abstraction. This was an elderly man, with the grave but not unpleasant expression that appeared to belong to the whole race. He glanced up at us for a moment, and, with perfectly unchanged expression, was about to make a slight *détour*, so as to pass round us. But we were not to be done in that way, and so we promptly checkmated him.

THEIR GRAND SCIENCE ATTAINMENTS.

Brown stood awe-struck, while I gathered myself up for the encounter. With a feeling of profound respect, which could hardly fail to appear in my looks, I asked our new friend if he would afford to us, ignorant strangers as we were, some information upon all that was around us. With a sign of assent, he answered at once, and in our telegraph language, that he would give us a few minutes. Then turning round, and pointing to what seemed to us a sort of telegraph apparatus, from which he had himself just come, and where there were still a great many looking on and apparently reading, he told us that communications were there being received from a number of systems, far and near, throughout the universe. The information appeared to us to be conveyed by a rapid succession of spectrum colours and their colour sounds, all of which rumbled in our crude ears like the mere indiscriminate hum of an Eolian harp, but which seemed to convey, with extraordinary rapidity, the most precise knowledge to the absorbed listeners before us. We were already aware, indeed, that these Upper Solars intercommunicated ideas with a rapidity almost infinitely beyond mere speech making; and that they classed us mere speechmakers as an inferior race, and more allied to anthropoids than to themselves. Although there was not a great difference in physical form between them and the Lower Solars, these Uppers, with their additional sense, and other superiorities, made out, at least, a very wide difference in mind.

Our guide next took us, after a short walk, into

one of a line or street of houses, presumably his own residence. These houses are very small slight structures, and, in passing through this one, we noticed what must have been a bed, but which to us looked more like an electric battery. We had already, indeed, heard something of the sleeping arrangements in Upper Solardom, the plan being to lie down in a head-to-foot magnetic current, which composes at once to sleep, while a clock regulation, by arrest and reversal of the composing current, after so many hours, causes immediate awakening.

We now passed through, into a somewhat large and open space behind, where we noticed what seemed like a slightly hollowed out amphitheatre. This was nearly filled by the irregular outline of what looked like a transparent mist or light auroral cloud. Our guide, in pointing to this remarkable object, seemed, by his face, to ask us if we could divine its meaning. We approached nearer, and gazed intently for some seconds. Suddenly I recognized the peculiarity of the outline, and a sense of sublime awe and even terror came over me, for was it not a micromized reflection of the vast outside universe! It was indeed no other. Our own science, although far less advanced, had long since laid down the general form of our universe, embodied mainly, as it was, in the so-called Milky Way; and here it all was, bodily reflected before our eyes. When I had whispered the solution to Brown, he was even more awed and affected than myself.

Our guide first explained that this reflection was secured for their use from the point of view of the furthest outlying star-cluster, and conveyed to them,

as to many others, by lines which, with ter-cross strength, passed unscathed through their own and any other solar photospheres ; while our own poorer lines, merely cross-electric, whether duplicated, or even reduplicated, were, alas ! at once destroyed by contact with those glowing cross-electric furnaces. Then taking a rod in his hand, our instructor next directed our attention to one particular spot, considerably inside, towards the centre of the mist. This, as I correctly surmised, was the location of our own system ; but nothing in particular could be distinguished, beyond the general outline of a comparatively very small section of the misty total, representing the particular sub-universe of which our solar system was a minute part.

We were next directed to look through what appeared a telescopic apparatus ; and there truly I saw what had been the little fragment of mist now resolved into almost countless stars or suns, but yet on so small a scale, that any of their respective revolving planets were totally invisible. A spring was next touched, and now this first magnifying was itself remagnified. But the magnified field was this time restricted to only one sun, whose principal planets just emerged into distinct sight. This was our own luminary, and around it we made out clearly great Jupiter and diversified Saturn, with Uranus and Neptune feebly visible, while the earth and Venus were but small discless points of light. Another magnifying brought only the earth and the moon into the field ; and, in yet one more, it was the earth alone, looming out grandly in all her solitude. Ceaselessly turning on her axis, and

moving along in her orbit, the mighty living world lay before us; and even while we gazed for a few seconds, we had to keep adjusting the apparatus, so as to move with the restless mass, and maintain it all in our full view. "See, Green," cried Brown, all of a sudden, and in no small excitement, just at this conjuncture, "the bright morning seems just dawning over the ground of Old England; and as the next magnifying is to bring to us the life size, who knows what delicate scenes and questionable sights may open upon us—Mrs. G. herself, perhaps, at her favourite eastern-outlook bedroom window, and just out of bed, in her night-dress, to sniff the fresh morning air." "Bless my heart and soul," said I to myself, as something approaching to a momentary tremor ran through me, "I had not thought about all this!" My fingers instinctively dropped from the regulating knob, and the final trigger remained unsprung.

We now turned back with our friend towards his house, and as he discoursed to us, I nudged Brown, in order to whisper in his ear that we were being treated to no less than actual Ter-Cross science. Poor Brown was sorely awe-struck, and seemed to look in wonder at something of a jaunty aspect I put on. For my part, suspecting, as we re-entered the house, that our opportunities were drawing to a close, and eager to make the most of what were left, I plumped to our instructor a plain question. It was unmistakably evident, I said to him, that his race had attained to Ter-Cross science, an attainment that might be yet very far from our own less advanced position; but what of the Quarto-Cross?

“The Quarto Cross,” he echoed, and at the same time reverently upraising his eyes—“The Quarto-Cross is beyond us—unattainable discovery! Divine Power!” So saying, and giving us a slight salute, he disappeared behind his door, and we were left on the steps lamenting.

CHAPTER XXI.

RELATES CHIEFLY TO A VERY CURIOUS DREAM OF MINE.

Brown's remarkable dream.—AUTHOR, chap. i.

“OLD SHAVER,” said I to myself, as Brown and I descended his door-steps, “you are wrong there at any rate—decidedly wrong, even with all your high ter-cross attainments. We inferior mortals of earth long regarded the ter-cross as exclusively Divine Power; and now that this power has been humanly reached by you Upper Solars, it is the quarto-cross that has become Divine, and so on! But neither the quarto nor the quinto, no, nor yet the dekka, nor even the cento-cross, may prove beyond human attainment. Our duty and privilege are to keep marching unceasingly onward, ever labouring to add to our knowledge, even if ever to find ahead a constantly enlarging field for our further journey.”

A CROSS WITH BROWN—THIS TIME NOT THE
CROSS-ELECTRIC.

Wholly absorbed by high thoughts of this kind, I had gone on a considerable distance without once thinking of Brown. But at last the regular patter of

feet broke upon my heretofore absorbed ears, and, turning round, I saw the old fellow following, just like, of all things, as I thought at the moment, some awed spaniel at his master's heels. I am sorry to have to confess to some feeling of contempt for my old friend, just for the moment, creeping over me; and this again was promptly followed by a serious business consideration, to the effect that Brown, while contributing but little, possibly nothing at all, worth inserting in our forthcoming work, and leaving me to supply all the brains, was yet to appropriate the full half of the profits. This latter consideration, in fact, took quite a sudden hold upon me at that moment; and no wonder, for the prospects of our volume were then of the most promising kind. So I resolved, there and then, upon a cautiously tentative approach to the subject.

"Well, Brown," said I, with an assumed perfect indifference, "all these wonders we have passed through are grand padding to our volume. Profit looms ahead if they are properly described."

"Oh, bother your profit, Green!" said Brown energetically, with all the disgusted air of a mind unwillingly interrupted in other and higher thoughts.

"Hoity, toity!" said I to myself: "what's all up now! And is even old Brown amongst the prophets—lost perhaps in that grand mist of the universe we have just been exploring!" I was most immensely amused. But presently the matter took with me, somewhat irresistibly, a business shape. "Well, Brown," I said, "if you don't mind those despised considerations, I am agreeable, by myself alone, to take all the trouble, as well as stand solely good for all the

undoubted publication risks and costs, on condition, of course——

“Bother the whole subject!” repeated Brown, interrupting me. But, alas! the original energy thrown into the sentence had entirely vanished. The words were there, but the spirit was gone. So I ported my helm, to avoid the visible breakers, and wait and woo some more promising opportunity.

We duly reached, on our return, the Upper Solardom border, repassed the gateway, this time without the slightest interference or even notice, and after a stroll through the far more active, varied, and genial scenes of the “Lower Life” outside, we re-embarked, to rejoin White and his company on their return home *via* Mercury. While we retraced aloft the vast solar landscape, I was this time busy over my notes of all that had occurred, so as to secure my description whilst all was still fresh on the mind. I was thus occupied till within some six hours of our destination, when, thoroughly wearied out in spite of all the excitement, I lay down to rest and was promptly fast asleep. Then followed——

MY DREAM, AND THE DISAPPOINTING AWAKENING.

I dreamt that another thousand years had swept over our earth, bringing us from the present A.D. 2882 to the year of grace 3882, with all its wonders of still additional and ever-increasing population and advanced and still ever-advancing science. We had then honeycombed our earth far towards the centre in order to make room for the multitudes of human beings: while outwards, again, we had occupied all

the atmosphere, and were anchored out, in large space-colonizing detachments, even considerably beyond its limits. Travelling had long been driven off into the pure surrounding ether, and there truly the rate of speed and the roominess of space were as yet all that could be desired.

Brown and I still took regularly our half-holiday Saturday trip; but it was now a considerable way, even beyond the atmosphere, into outside space. I comforted Brown with the calculation that even the comparatively small space between us and Sirius could pack within one narrow belt the whole of our world's population, and even the additions for some centuries more ahead into the bargain. Although the world's population seemed then in a thorough jam as compared with now, yet none seemed to feel inconvenienced. No one wished to retreat to the smaller days of the past; but at the same time every one wondered, just as we ourselves now do in the twenty-ninth century, how people could possibly get on, with our then pace of progress, after a still further thousand years.

The great feature of the time was that we had attained to the ter-cross. The phosphate supply question was all past and done with, because we could now interconvert all the varieties of material substance, reducing them all, by command of adequate intensity of heat, to the one simple element of matter, and reconstituting the due proportions of chemical diversity as required exactly for our life and food and all other wants. The danger of the future, although still at a reasonably safe distance, was not a scarcity of phosphates or of any other substance in particular,

but of substance itself in general; for what were we to do when by the increase of human bodies all the earth's substance had been absorbed? Were we to prey upon the other orbs of space, and thus increase our earth into unknown future dimensions? Some pretended already, even in the reality of this twenty-ninth century, to decipher that prospect upon the future horizon. Already, it might be said, we were, at times and in places, hard run to maintain the full needed supplies, the carbon and oxygen, nitrogen and hydrogen, and the other lesser needs, being kept unremittingly at work in their successive coursing through our material frames. In this growing relative scarcity, one body must perhaps imbibe at once what another throws off. The laboratory intervenes to convert exhaled poison into indispensable nutriment. The ubiquitous reign of chemistry is already triumphant.

Returning to the dream, one vast field of business seemed opening out, in providing from time to time the extensions to our atmosphere, as required, on the one hand, by extension of subterranean excavation, and, on the other, by the overcrowding aerial population. When the volume of our wants in oxygen and nitrogen had become too great for the slow and costly process of decomposing the earth's solid masses, we had recourse to outside supplies, and had already made considerable havoc of Jupiter's gaseous envelope, where both the gases in question were to be had unlimitedly for the taking, only that the expense of disengaging and deporting was very considerable. But latterly the grand source of the most suitable and most economical supply had been the comets.

No oxygen comets had been met with, but in our system there were not a few of the smaller of these members of the family composed, wholly or mainly, of nitrogen; and one of them had, not long before, been wholly captured, and piloted, by cross-electric conduction, safely into our earth, where it was duly intermixed with an oxygen stream similarly and simultaneously conducted from Jupiter. The State authorities had made large contracts in this way, and many contractors had made large fortunes. Both Brown and I had contrived to secure a share.

But the progress which surpassed all else, and which ever commanded the deepest interest of that time, was that of outside travel, which had now passed far beyond the puny distances of the realities of our own time, and within our own system. My old friend White turned up here also once more, and this time making voyages, not merely to our next-door neighbours the planets, but to the stars. The nearer systems in fact were reached within the few days or weeks that are now occupied in our interplanetary travel. A very grand scheme was in contemplation, under White's redoubtable leadership—no less than a public excursion to the nebula in Argo, in order to survey, from some near but sufficiently safe position, the marvellously stupendous movements that are of late developing there, in the gradual process of evolving a huge solar system. This system, in its foreshortened position, as regarded our point of view, had long seemed to be carrying on many incomprehensible antics. But, latterly, we had clearly demonstrated the whole case; and the result was a very general inclination to know more of the subject.

by a closer view of those protracted pangs of celestial parturition into which the nebulous matrix had fallen. Those who were willing for the vast journey would bring back the description to those who were not, or who could not afford the time or the money.

There was quite a mania for this trip, and considerable numbers from Venus, and a sprinkling even from Mercury and Vulcan were tempted to join. They mostly preferred coming to us of the earth, so as to be under old White's approved leadership. There were still, even after this further thousand years, as I dreamt, many Lower Solars lingering along the Solar Equator, and not a few of these, as they confessed, might have joined us also, but for the inconvenience they felt, and the heavy counter-energy cost they were continuously put to, on quitting the accustomed enormous gravity of the sun's surface. Their squat room-taking figures, too, rendered them somewhat ungenial fellow-travellers. But again, our company, upon the celestial ground of destination, was not to be limited, by any means, to our own small solar system ; for many systems around us were fired by the same ambitious object, and simultaneous expeditions from each system had been agreed to. We could sufficiently trust our latest universe charts, so as to meet one another at appointed stations in space, and it was quite expected that spectators and their vehicles, in form of a vast amphitheatre, would more or less surround the agitated expanse of the nebula.

And lastly, as to the question of speed. White, with his usual and well-practised daring, would hardly condescend to put limits to his powers, short of electric-light message speed itself. Give him the open

sea, he would always say, far clear of all intervening island systems, and he could work up speed indefinitely. He spoke of attaining a twentieth, a tenth, nay, a fifth even, of the message speed: which was somewhat like saying, that the speed of light itself, 186,000 miles in a second, was to be eclipsed as much as that speed, when first made known, eclipsed all other speeds of our then knowledge. White reckoned that six weeks would bestride the vast interval in question, with further allowance for the "slack" at either extremity of the voyage—a rather troublesome case it was, in dealing with our corporate and living bodies, seeing that the said slack involved about as much of precious time as the main voyage itself.

White had made enormous preparations, alike for speed and safety. The outlay upon anti-vis-inertial energy, and anti-momentum energy, was something fabulous; and no wonder that the passage-money ran up even to thousands of energy per head. Another stupendous cost was the vast panoply of cross-electric lines thrown out, forming, in fact, an encompassing cylinder, ever far ahead along the route to the nebula. Even the continuous pay-out of this costly process for the earth's axial motion was an appreciable addition. But in fact every such precaution was taken for safety, regardless of expense, so that the minutest meteoric body, entering within the lines even a billion miles ahead, was almost at once indicated at the pilotage, and by the admirable self-action of that advanced day avoided.

Brown and I, of course, had made up our minds to go on this trip. Indeed, we had other and better

objects than mere curiosity, scientific or general. We had our eye upon capturing a good slice of the nebula itself, and were to take the necessary cross-electric apparatus for the purpose, having already, by anticipation, for the safety of all the travelling world, chalked out the path of the mass, after we had detached it and sent it speeding homewards, and having intimated publicly the time of start and rate of travel, according to all customary precaution. In fact, a powerful syndicate had been formed regarding this nebula-prizing. Brown and I were appointed the managing agents, and our mere joint brokerage, even at a thirty-second, further reduced, by return commission, to a sixty-fourth, was not to be despised.

Well, we were both duly at White's office to secure and pay for our passages. I saw Brown's hand deep into his breeches pocket for the needed energy notes, and at the same time I marked a pang flitting over his face at having to part with so much hard-earned money. White, who stood by, getting impatient at this hesitation and delay, with all the waiting crowd of passengers behind, roared out to us to make haste; and thereupon, sad to say, I awoke, and all our greatness and progress was but a dream!

CHAPTER XXII.

HOME'S REALITIES AT LAST; REAL, AT ANY RATE, IF
STILL FURTHER DISAPPOINTING.

“Home, sweet home!”—AUTHOR, chap. i.

Yes, it was all a dream! And so one must descend forthwith from grand castles in the air to the humble cottages of reality. I was most decidedly out of humour, for the time, with this sudden change from the sublimely great, to what was, by comparison at least, the ridiculously small; nor were things made any better to my wounded ideal, when White himself bobbed his rough old head between the curtains of my little berth, to say that this was the second arousing he had already given me to make haste, there being now no time to lose in securing a promising spot opening that presented itself for passing outside the photosphere. I rose of course, but I was in more or less of a growling, disappointed mood during all my morning's toilet.

But passing presently into the main cabin, my thoughts began at last to be agreeably diverted, for almost the first object to greet my eyes was my bundle of letters on the table, by mail, just in from

the Earth. It was the direct express, and brought of course the very latest despatches. Amongst others to myself was a letter from Bullings. It was expressed in the most grateful terms, acknowledging that my timely remittance, together with the influential and stimulative heading of the honoured name of Nunsowe Green to his share-list, had reinstated his fortunes. His grand consolidation scheme had taken the public fancy, and already the shares were at twenty premium. "That price," added Bullings, "can be had at once for yours; but as they must go to fifty or even a hundred immediately, it would, of course, be madness to sell." So then this is to be "Business first" after all, thought I, as a warm thrill of mingled benevolence and business consideration came over me. But forthwith I telegraphed Bullings, with electro-light speed, even upon the extreme expediting heat-wave, the one sole word, "Sell."

Next, moving outside, great was my astonishment at the surrounding spectacle. The school-children of the neighbourhood had all obtained a partial holiday, alike to witness and to do honour to our departure. The rocks and house-tops all about were covered with the odd-looking little creatures, whose peculiar and soft lullabies, "Ha, ha, Pa, pa," now fell like sweet music upon my ears. I could not help musing at the moment on the similarities of children everywhere, for I could almost have sworn that I heard my own young people's voices in all this far-away solar throng.

Now at last we shove off. White is evidently resolute for despatch, and keeps his eagle eye forward

and aloft, fixed upon the grand "spot" opening which had lately yawned in a position so conveniently direct for us. At once he springs the first electric, and, with a rather smart shock all round, away we speed. The arousing effects of the shock, the pleasant excitement, the reassuring aspect of redoubtable old White at the helm near me, and, above all, the pleasant parental feeling that we were now homeward bound, had at last quite dispelled my cross humour in the tantalizing matter of the dream. Bullings' welcome communication also did its part; so that, altogether, I found myself lapsing into a very comfortable complacency of spirit, as I glanced, alternately, downwards upon the vast and diversified solar scenery we were so rapidly leaving, and upwards at the electrical storms and storm-clouds of the sub-photosphere, which we were as rapidly approaching.

Suddenly I mark a change in White's expression, and looking in the direction indicated by his fixed and keen gaze, I at once apprehend the cause; for a bright facula is just then seen streaming out from the edge towards the centre of the opening in the photosphere for which we are making. It now occurred to me to suggest to White, that, perhaps, we had better pull up, or even make a timely turn back, in face of such manifest danger. Hardly was the thought realized, when I saw the bold, rash man pull the second electric, and on we dashed at the redoubled speed, while the terrible shaking I got in consequence seemed to leave me, for a second or two, but half alive.

But I quickly recovered myself, under the pressure of imminent surrounding danger. Looking out ahead,

a truly awful spectacle met my gaze. We had already entered the upper storm region, and were dashing through it at such a pace that in a few more minutes, nay, possibly but some few more seconds, we should be passing through the centre of the spot opening. Then, directing my eye to that quarter, I could see, through the flitting intermediate clouds, that the terrible facula had made most portentous progress towards that centre, so that it seemed only an even balance as to which of us was to be there first. We were well aware that but one touch of the very skirts of this facula, and all our cross-electric protection was at once dissolved, and ourselves destroyed—burnt up—the next instant. What, then, would White do? I turned imploringly to him, but the reckless man heeded me not. Resolute purpose was in his unswerving eye. I became desperate, and had a project of seizing the ruffian by the throat, when, horror upon horror, I saw the madman grasp, and slash out to its very fullest, the third electric!

Thereupon it seemed as though, by this fresh shock, I had been wrenched asunder into a thousand fragments, and, body and mind alike, irrecoverably dissipated over surrounding space. Was I left conscious, or unconscious? I know not; but, at any rate, there seemed, curiously, to succeed to this terrible convulsion the silence and stillness of the very grave. That particular simile the more readily occurred to me, because I seemed really to have passed the ordeal of the narrow home, and to have actually entered the next world, wherever that might be. But presently a sweet silvery cadence fell upon my ear. I might have thought that it savoured of the peace of Paradise,

were it not that, at once, I recognized it all, as no other than the delicious music of the children we had so lately left behind us in the sun. Were we then safe back already to solar *terra firma*? There seemed no possible mistake in the matter, and I was just turning, most penitentially, to express my gratitude to our matchless leader, when another voice, streaming into my all-attent ears, at once sent my thoughts into an entirely different direction, for the solution of the problem.

Although I failed to catch the precise words, I could not for one moment doubt the tone. It was indeed no other than my dearest wife's voice. Were we, then, safe at home? Surely this was so, rather than the alternative of her having adventured to the sun to meet us. If that brave and noble White had just then stood visible before me, I could have fallen down and worshipped him.

But now there followed a fresh puzzle. Young Brown's voice also fell distinctly upon my ears. We could not possibly be at Mercury, and had he not waited for us as agreed upon? and how surprising to find him also here!

How surprising, indeed, it all was! But unquestionably we were safe home again, and I made a sign to young Brown to bring up a bottle of the best laboratorial vintage, in order to drink a bumper to White's health. Anon, I prepared myself to meet my wife, not wishing to put her out of countenance by any looks of assumption based upon the undoubted successes of our great expedition. Then my thoughts dashed off to the promising forthcoming publication, mingled, however, with the qualifying recollection,

that Brown's full equal share in that matter still stood good. Another instant and Bullings was in my mind, and I wondered that he had not already met me here, or at any rate sent a special message, with a contract for the sale of the shares at the premium assured to me. Had the rash fellow still held them on? or was he merely negligent and ungrateful, and the profit all mine none the less? Countless other subjects seemed to course through my mind with the rapidity of electro-light speed itself, and at last I settled into the Green-Brown syndicate, which was to make all our fortunes out of the plunder of the great nebula in Argo, a satisfaction tempered, however, by the recollection that the greatly reduced brokerage on the job was to be further diminished by Brown's half share. I thought with pride and dignity of explaining all this welcome fortune-making to my wife, when all this current and bustle of thought was at once arrested by her voice a second time falling upon my ears, and this time quite distinctly as to the utterance.

“Why, my dear, what has come over you? You have been snoring, snorting, and grunting, in that easy-chair of yours, for the best part of the last half-hour, and little Maggie has just had to shake you three times over ere you could be wakened. What's the good of you and old Skipper White indulging in ideal trips over this whole mighty world, when even a jaunt to Brighton knocks you up in this way! Here we all are, with tea ready poured out, and only waiting your saying grace.”

In another few seconds I had said grace, and in a like further short interval I had buried my teeth in a round of my favourite hot toast, buttered on both sides,

which our Polly had prepared as usual—my wife, however, permitting such extravagance only when we used Cork seconds. Another minute, and I was exhorting young Brown—who, however, was too pre-occupied with Polly to pay much heed—to make a good meal, as we were both to take the early morning train to Birmingham, in order to begin, sad to say, all over again, the business tour in the hardware trade.

And now, in conclusion, it's all very well to profess to take composedly what comes to us, whether the up or the down, the great or the small. But I cannot say I was, all at once, quite reconciled to such equanimity after two successive tumbles from those lofty heights over which I had seemed, for a whole lifetime, to be so successfully careering.

I was thus brooding through our tea-taking, and in a decidedly grumbling humour, when a thought suddenly flashed upon me. That projected publication, which was in fact the backbone of all I had just experienced, might still prove a surviving reality. I would write out a full, true, and particular account of everything just as I saw it and felt it in my late experiences. And then again, whatever the proceeds, whether great or small, there was at any rate one grand consolation, that not one iota of the profit, not the cent of an Energy of it all, could be claimed by Brown.

Good reader, I have now duly done all this, and I hope you have enjoyed the resulting volume, as indeed you have a right to do after paying your purchase money. I don't pretend, with worthy old Brown in his momentary higher mood, to say

“Bother the profits,” for “Business first” remains with me, as ever, the family motto. Nevertheless, business duly done with, I have a further purpose to bring up this other subject before the great S.S.U.D.S. Many of the experiences might be worth attention, and some of the best of the ideal progress might be really attainable, possibly even sooner in reality than in the dream. I intend, in short, to appeal to the S.S.U.D.S. to help the promotion of

THE NUNSOWE-GREEN PROGRAMME.

THE END.



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